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Increasing Capacity of Single Track

Expedites Traffic Through Bottle-Neck

"UNION" Centralized Traffic Control installed by the Pennsylvania R. R. to control switches and signals at each end of 4.5 miles of single track between Huntley and Sterling Run on the Renovo Division, has minimized delays on this bottle-neck and permits a free flow of traffic. The indications of the block signals at Huntley and Sterling Run supersede timetable superiority and take the place of train orders.

Increasing track capacity is but one important advantage of "Union" C. T. C. Why not investigate *all* of its advantages and benefits? Our representative will be glad to assist.

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RAILWAY AGE

"Public Relations"—Railways and Business

There has been within recent years an increase of "public relations" activity on behalf of business; and there is advocacy of a further large increase of it. The railroads have done more of such work than any other industry; and they are also now in the worst financial condition of any industry, and present the most difficult and dangerous problem. There are wide differences of opinion as to what these facts about the railroads show. It obviously behooves those undertaking or advocating public relations activities on behalf of business in general to try to determine what, if anything, they do show.

Spokesmen of other industries are prone to be critical of the public relations work that has been done for the railways, as well as of other features of railway management; but questioning usually soon discloses that they know little or nothing about what the railways have actually done. It has been well said that while experience is the best teacher, a man is a fool who cannot learn from anybody's experience excepting his own. The kinds of public relations activities the railways have carried on; the reactions of the public, including business men, to them; and the reasons why these reactions have been what they have should be highly instructive to those who will study them and apply the lessons they teach in carrying on public relations work for other kinds of business.

Why "Public Relations" Work?

One point of importance that should be emphasized is that what is ordinarily called "public relations" work probably never has and never will entirely, or even mainly, determine the public's attitude toward any industry, or toward business as a whole. Why was so-called "public relations" work on behalf of the railways ever started? Because railway management had become unpopular, owing partly to certain practices that could not be honestly defended, and partly to its failure for years to answer criticisms that were unwarranted. Abuses in railway management and, especially, financial abuses, that preceded and have accompanied all the public relations work done, have handicapped, and still handicap, efforts to create a friendly public sentiment. Those who undertake public relations work for business in general will find it impossible to popularize business management excepting in proportion as business actually is conducted in the public interest.

What should be the objective of public relations activities on behalf of business? An answer often made is, "The preservation of the American system." But what is the American system? We have asked that question repeatedly of persons enthusiastic for its preservation—or restoration—but have seldom or never received a lucid and adequate answer. Sometimes we are told it is the "system of free private enterprise." Free from whom and what? Free, for instance, from government interference—or from private monopoly practices? And should all parts of the system be similarly and equally free?

Save the "American System"—But What Is It?

What the "American system of free private enterprise" formerly was considered to be is indicated by two federal laws that were passed about fifty years ago and are still in effect—or, at least, still in the statute books. One is the Sherman anti-trust law, which requires competition within naturally competitive industries. The other is the Interstate Commerce Act, which applies government regulation to the railroads upon the assumption that they are a monopolistic industry. In other words, it was formerly assumed that the American system of free private enterprise should consist of (1) industries in which active competition prevailed, and in which, if necessary, it should be enforced by government, and (2) naturally monopolistic industries to which government regulation was applied to prevent them from using their monopolistic power to exploit their employees or customers.

Is this the "American system of free enterprise" in behalf of the preservation—or restoration—of which public relations activities by business are now being carried on and advocated? We do not recall having ever heard anybody say so. What most of those who advocate preservation—or restoration—of the American system of free enterprise apparently mean is restoration of the economic system that existed before the New Deal began. But that would not abolish monopolistic practices that then prevailed, and still prevail, within many naturally competitive industries. And neither would it, by withdrawing regulation from the railways, recognize

that transportation has become a highly competitive industry, nor would it abolish the inequalities in government regulation and subsidization of different branches of the transportation industry by which their competition is so strongly affected.

The "American System" and the Railways

If the words "American system of free private enterprise" mean the same as they did a half century ago, or even a quarter of a century ago, they certainly do not mean continuance of monopoly practices within naturally competitive industries without government regulation of these industries, or continuance of present policies of subsidizing other carriers to the tune of hundreds of millions of dollars annually to help them compete with the railways—and then regulating the railways upon the assumption that they have no competitors.

The mental confusion—or something worse—of many of those who talk about the "American system" and what should be done to save it is strikingly illustrated by what is occurring right now regarding the railroad problem. Several groups are working on it. One is the committee of three railway presidents and three railway labor leaders appointed by President Roosevelt. Another is the Transportation Conference created by the Chamber of Commerce of the United States. Obviously the sole ultimate objective of any new transportation policy that may be adopted by the government should be promotion of the public interest. But if the committee appointed by the President, and the Transportation Conference sponsored by the Chamber of Commerce, should produce recommendations that were widely different, might it not become difficult to convince Congress and the public that both of them, in their efforts to find a solution of the railroad problem, gave sole, or even paramount, consideration to the public interest? And yet it now seems highly probable that the two groups will make widely different recommendations. Because one-half of its members are labor leaders, the President's committee almost certainly will make no recommendations for labor legislation, but it undoubtedly will recommend important new legislation to change present federal and state policies affecting competition in transportation.

The Transportation Conference and Transportation Competition

On the other hand, it appears probable that the Transportation Conference, while recommending legislation regarding labor and several other matters, will make no recommendation for legislation affecting present competitive conditions in transportation, although the remedying of these conditions is of the most vital importance. There appeared in the November 28 issue of "Washington Review," published by the Chamber of Commerce of the United States, a progress report regarding the Transportation Conference's work. It stated a number of policies for railway "relief" upon which agreement had been reached and a few others that were still under consideration. But it contained no reference whatever to the competition between the railways and other carriers, the effects of government regulation and subsidization upon that competition, and what, if anything, Congress and the state legislatures should do about them. Furthermore, diligent inquiry by this paper indicates that there are such differences of opinion within the conference that probably it will take no stand concerning what the transportation competitive situation actually is or what, if anything, Congress and the state legislatures should do about it.

The conference consists of business men. Why are there such differences between them? Do they not all favor preservation—or restoration—of the "American system"? Certainly; but apparently as regards transportation they don't agree upon what the "American system" is—or ought to be. Some of them believe they and those they represent benefit by the present socialistic government policies of regulating the railways and their competitors unequally and subsidizing the railways' competitors by airway, highway and waterway. They, like all business men, want to preserve—or restore—the "American system" and they know as well as anybody that the adoption of government ownership of railways would deal a deadly blow to that system. But evidently they don't want to help save the "American system" and the country at any cost to themselves and those they represent, even though small. They want government spending and taxing reduced—but not spending and taxing for airways, highways and waterways. They are perfectly willing to take money away from people who are on relief; but they are not willing to take it away from the large corporations that are the principal beneficiaries of government-subsidized transportation on our inland waterways. They want private ownership of railways retained as part of an "American system of free enterprise"—but not enough to require other carriers to pay all the costs of their service out of their own earnings as the railroads do.

Business Men and the Railway Problem

But if business men, when confronted with a problem involving the future of private enterprise in the United States to the extent that the railroad problem does, will not unhesitatingly meet that problem squarely and apply to it the principles that they demand shall be applied to business in general, how can they expect success for any effort, however extensive and expensive, to get the public to accept and apply those principles to the problems of other kinds of business?

The railways for many years have carried on a public relations campaign by improving their service to the utmost and by trying to drive the facts regarding their industry and its problems into the heads of working men, farmers and business men. It is to be feared,

however, they have not succeeded and will not succeed in convincing even enough business men to get the support from business that they need for the solution of the railroad problem under private ownership. Most business men, like most other people, believe what they want to believe regarding most matters. Many of them for their own selfish reasons, want to believe, and therefore do believe, that the present condition of the railroads is not as bad as represented by their spokesmen; and that, anyway, it is not as largely due to government policies favoring the competitors of the railways as railway spokesmen represent.

Who Will Believe Business?

Those carrying on or advocating increased public relations activities by other industries may well ponder these facts. When so many business men will not believe what spokesmen of the railroads tell them regarding railroad conditions and the railroad problem, why expect farmers and working men to believe what spokesmen of business in general say about business and its problems and in defense of the "American system"? And if labor and the farmers cannot be educated and influenced by public relations activities on behalf of business, why carry them on?

Spokesmen of other industries are prone to imply or charge that the present condition of the railroads exists because they have been worse managed than other industries and that their public relations activities have been poorly conducted. Such talk is the patter of ignorance or perversity or both. "There are none so blind as those who will not see,"—and the very fact that men prominent in other industries indulge in such patter is the strongest evidence possible of how difficult it is going to be for them to carry on effective public relations work in behalf of business in general. If the good management the railways have had, and the efficient public relations work that has been done for them, have not been sufficient to enlist almost all business men in support of policies necessary to save private ownership of railways, why expect any other public relations efforts to be sufficient to save the rest of the system of free private enterprise?

An Analysis of the Gas Tax "Diversion" Outcry

As applied to motor fuel taxes, diversion in common use is a misnomer and is misleading. To earmark and label state revenues or any part thereof—for example, earmarking motor fuel tax revenue exclusively for highway purposes—constitutes by the limitation thus imposed a diversion of State revenues. It is a cardinal rule of sound governmental finance that all tax revenues should properly be paid into the general fund of the government and disbursed for general expenses and purposes of government.

It may be observed that the statute which imposes a tax on alcoholic beverages is strikingly similar to the statute imposing a tax on motor fuel, and both taxes are classed as sales taxes. May it not, therefore, be pertinent to inquire: If beverage tax revenues were earmarked, for what purposes would those revenues be applied? The motor fuel users argue that revenues from motor fuel taxes should be applied exclusively in the construction and maintenance of highways. Applying the same logic, the distillers and brewers, as taxpayers, might well argue for the application of beverage tax revenues to some purpose or interest vital to the improvement of their respective industries. Who will argue that this revenue should be thus applied when it is needed for important essential governmental services?

If earmarking of state revenues is a desirable and justifiable policy, in what manner and from what source would revenues be obtained for non-revenue producing governmental services, such as education, health, maintenance of courts, police, state institutions essential for the health and protection of society, and finally for the administration of government itself? The theory of earmarking thus applied to state revenues is *reductio ad absurdum.* Government and its numerous agencies obviously could not function.

In 1929, a group of sixteen smaller cities reported that 30 per cent of their police appropriations were traffic appropriations. The Commission for the Revision of the Tax Laws stated in its 1932 report that, if this percentage held throughout the state, the motor vehicle was responsible for about $15,000,000 of police costs per annum. No estimate of the proportion of court costs attributable to the motor vehicle is known. Street lighting costs, including traffic lights, have also undergone great expansion since the advent of the motor car. * * * The Bureau of Motor Vehicles report of accidents for the calendar year 1937 shows 3,065 persons killed and 106,482 injured by automobiles. The right to operate such an engine of death as the automobile has proved to be, carries with it the responsibility of paying for whatever damage results. In persons left destitute or crippled, in property destroyed, the total must of necessity be so staggering as to foil all attempts at careful computation of the social loss. It appears that in this way, if not by pauperizing some owners, the automobile has augmented the burden of relief now facing all units of government.

Statistics clearly show that motorists' contributions in taxes have not equaled the total indebtedness incurred for their benefit by state and municipal governments. * * * (N. B. The Tax Commission included a table which showed the total state and Federal taxes on motor fuels, lubricating oils and registration fees contrasted with the total expenditures for streets and highways by all units of government in New York. Total motor revenues from 1929-37 inclusive amounted to $861,278,000 against total expenditures of $1,613,326,000). From the data just presented, which, unlike those given by the motorists' organizations, are inclusive both of taxes and highway expenditures, the motorists have received nearly $2 for every $1 contributed by them.

A significant fact which complaining motor fuel users either fail to consider, or intentionally disregard, is that a tax on motor fuel was first imposed in this state in 1929 and that motor fuel taxes therefore have been a burden on the motorists for a very brief period, less than nine years. The life of this tax to date is measured by the period of the economic depression, during which all taxpayers have been obliged to bear a heavy tax burden. It may not be inappropriate therefore to inquire as to what group of taxpayers bore the burden of expense for construction and maintenance of highways for thirty years prior to 1929, a period during which there was no tax on motor fuel consumed in the operation of motor vehicles. Obviously, this burden was, and even now is, largely borne by the owners of real estate. * * *

From the 1937 Annual Report of the N. Y. State Tax Commission

Milwaukee All-Welded Flat Cars

50-ton cars are built on unit-construction principle and designed to handle large shipments

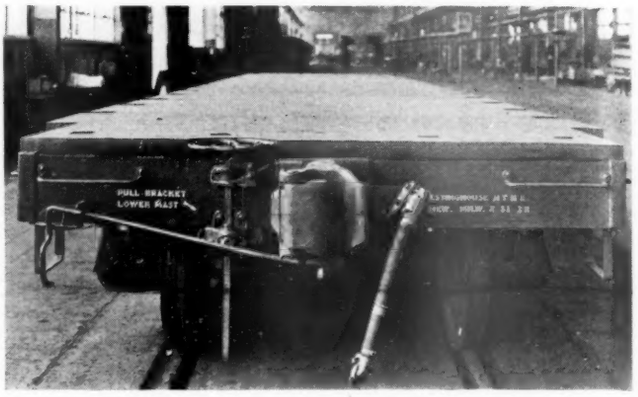
A NEW series of approximately 500 all-welded flat cars are now undergoing construction in the Milwaukee shops of the Chicago, Milwaukee, St. Paul & Pacific. These cars are 52 ft. 6 in. long over the end sills, or 53 ft. 3 in. over the striking castings; have a capacity of 50 tons; and weigh approximately 45,600 lb. As in previous car construction programs on the Milwaukee, the principle of unit construction is being carried out, while the entire assembly is made on a production basis.

In the development of this flat car, the principal objectives have been to adhere to Association of American Railroad standards; conform to loading requirements; provide minimum initial and operating costs; and meet, as nearly as possible, shippers' requirements for this class of equipment. The unusually large deck, 52 ft. 6 in. long by 10 ft. 6 in. wide, is especially advantageous to manufacturers who desire to ship tractors, threshers and similar equipment requiring maximum-width cars.

The car has been designed from a welding standpoint throughout, using ordinary low-carbon steel, and stresses have been computed with a relatively high factor of safety. Standard mill sections, plates and bars with standard mill tolerances are employed and these have a definite bearing on cost reduction.

Owing to the substantial thickness of the plates used in the car, it has been necessary to use ¼-in. and 5/16-in. welding rods except in isolated parts where 3/16-in. is used. The majority of the welding is intermittent with a ratio of 1:1 except in the region of the bolsters. Here, continuous welding is carried out using fillets of ¼ in. Both transformer-type and motor-generator-type welding machines are being used.

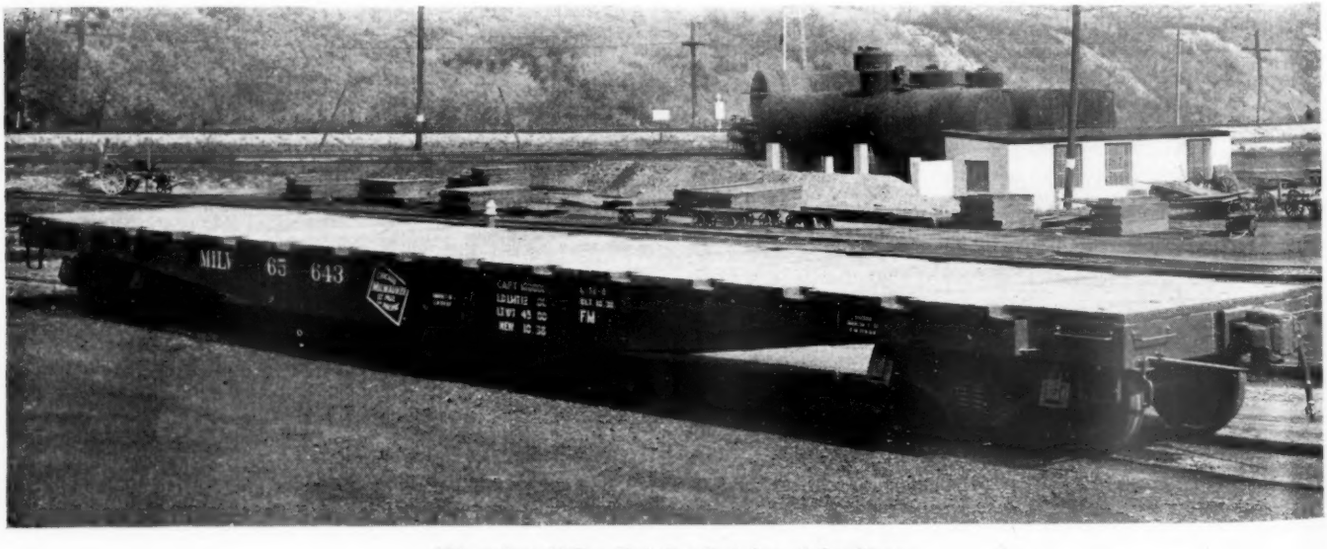
In accordance with previous Milwaukee practice in building cars, separate jig assemblies for individual parts, such as bolsters, cross-bearers, center-sill sections and end sills have been adopted wherever possible. These fabricated units, progressively advanced on the production line, are then welded together to make up the final integrated steel assembly. In the subsequent positions, couplers, draft gears and air-brake equipment are applied. The trucks are assembled separately.



End of the Car Showing Brake Staff in Lowered Position

Fabrication of the Principal Structural Units

The center sills consist of two built-up sections, each comprising a web plate (cut to fish-belly shape), one upper chord angle and two lower chord angles. Each section is built up on a jig accommodating two, one of which is being set up while the other is being welded. This gives a high operating factor; i.e., per cent of time the arc is in operation; and since the majority of the welding is in a downhand position, maximum efficiency results. The completed sections are delivered by an overhead crane direct to the center-sill assembly jig. Here they are welded to a top cover plate while center-sill spreaders are welded on, center-filler and striking castings riveted in place and couplers and draft gears



Milwaukee 50-Ton Flat Car Just Out of the Shops

applied. This jig accommodates two such set-ups to cut idle time to a minimum.

Each side sill consists of a web plate (cut to fish-belly shape), one lower chord angle and a top cover plate. These are welded together on a jig built to take two such assemblies, and the 15 stake pockets are then welded to each sill.

Each end sill is composed of two channels which, in turn, are welded to a cover plate. This is accomplished in a revolving jig so that all welding is positioned. Grab irons, uncoupling castings and hand brakes are riveted on by means of a power riveter before the two parts are welded to the cover plate. This eliminates hand riveting and adds to the general efficiency. Separate jigs for the A and the B end sill are provided.

The bolster center-filler casting is a built-up, welded assembly, in which the center-plate casting is welded in place by means of tie-plates which, in turn, are welded to the forged bolster spider sides. This is likewise accomplished in a revolving jig.

The cross-bearers are web plates welded to top and bottom cover plates. Each cross-bearer is assembled in two units on a specially constructed table. One unit consists of a continuous top cover plate, web plate and bottom cover plate while the other has the web plate and bottom cover plate only. In the final assembly the top cover plate passes through slots in the center-sill web plates and is welded in place. The bottom cover plates are welded directly to the center sills and, in order to make them continuous, a tie-plate is welded to the center sills across the lower chord angles.

Each bolster consists of two web plates, one top cover plate and one bottom cover plate. Between the web plates and welded to the bottom cover plate is the H-beam or side-bearing brace. A top cover plate is applied in the main assembly jig. Two revolving bolster jigs are used.

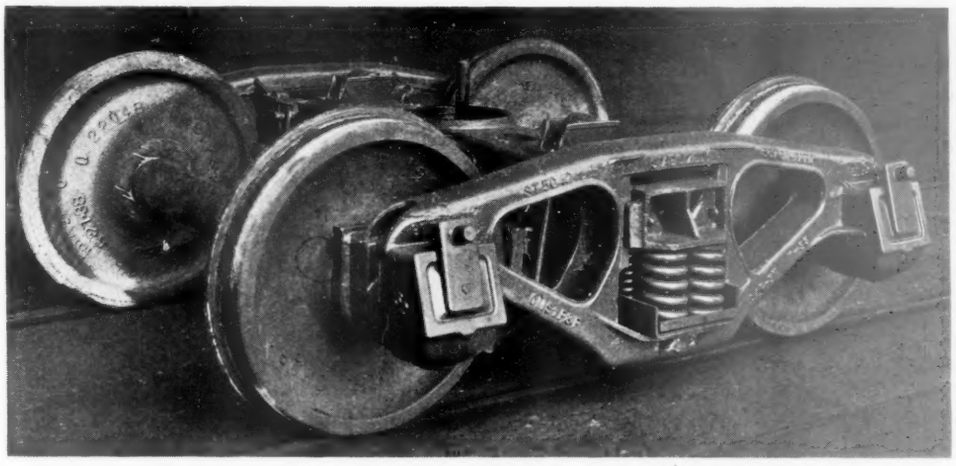
Assembly of Units to Form the Completed Car

All individual units, having been manufactured, are taken to an assembly jig. The completed center sill is set up with the bolsters, cross-bearers, cross-ties, end sills and side sills and these parts are welded together into a single unit. During the welding operation, the side sills are held in place by means of eight air cylinders—four on each side of the assembly jig. The unit underframe, which is in an upside-down position, is then moved to the next jig where the piping and air-brake parts are applied.

After the welds have been peened and brushed, the car is placed right-side-up; put on trucks, and shunted into the paint booth for the initial priming coat. The latter is a quick drying paint with chromate base. From the paint booth, the car is moved to the adjacent track where car cement, on surfaces having metal and wood contact, floor stringers are boards are applied.

Select common fir is used for floor and stringers, while rough lumber 3 in. by 10 in., with milling sufficient only to surface and square the boards, is used for the flooring. To hold the latter in place there are six ½-in. flat head carriage bolts and four No. 4, 5½-in. long steel wire nails per board. After the floors are applied, the cars are moved to the spray booth where they receive two coats of quick-drying freight-car paint. The final operation is application of the stencils and a rigid inspection of all parts.

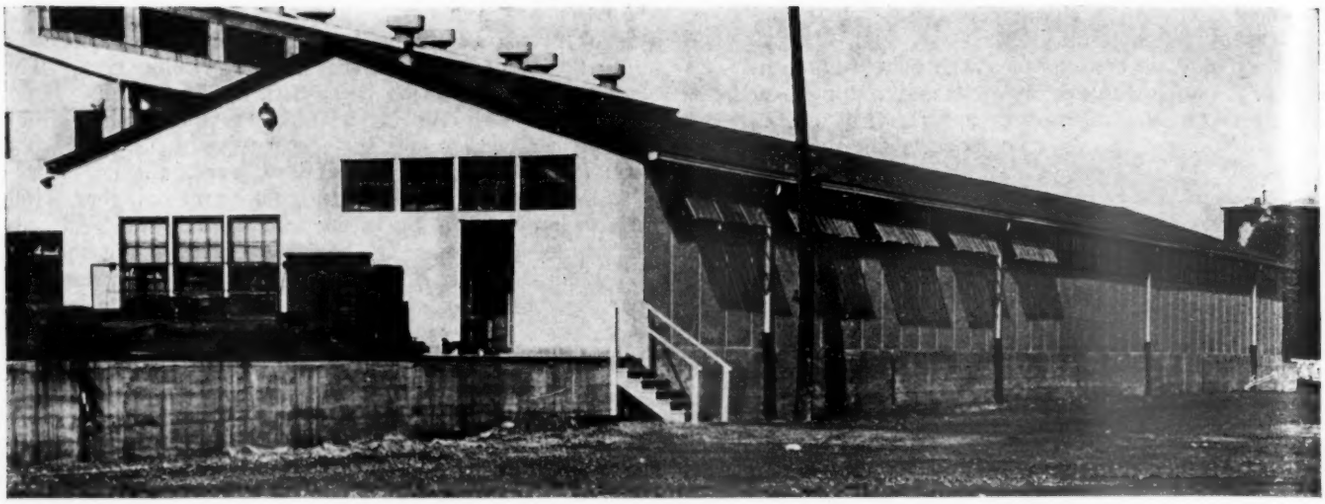
In addition to the usual forged parts manufactured at Milwaukee shops, the following are also locally made: spring planks, spring plates, brake beams, wheels, brake shoes, thrust plates and brake-lever badge plates. The taper section of the web plates on side and center sills is shaped by the use of a portable motor-driven oxy-acetylene cutting machine. The chord angles are cold-formed in a press.



The Barber Type S-2 Stabilized Truck, Using Bettendorf Side Frames and Bolster

Partial List of Equipment Used on New Milwaukee 50-Ton Flat Cars

Air brakes	Westinghouse Air Brake Co., Wilmerding, Pa.
Brake-beam safety support	Chicago Railway Equipment Co., Chicago
Hand brakes	Superior Hand Brake Co., Chicago
Bottom-rod support	Chicago Railway Equipment Co., Chicago
A.A.R. Type E rotary couplers	Buckeye Steel Castings Co., Columbus, Ohio
Coupler release rigging	Standard Railway Equipment Mfg. Co., Chicago
Cast-steel coupler yokes	Buckeye Steel Castings Co., Columbus, Ohio
Defect-card holder	Apex Railway Products Co., Chicago
Draft gears	Cardwell Westinghouse Co., Chicago Waugh Equipment Co., New York Edgewater Steel Co., Pittsburgh, Pa. National Malleable & Steel Castings Co., Cleveland, Ohio W. H. Miner, Inc., Chicago
Dust guard and closure	olley Wood Products Corp., Chicago
Journal-box lids	Motor Wheel Corp., Lansing, Mich.
Journal brasses	Magnus Metal Corp., Chicago
Journal wedge	Standard Forgings Corp., Chicago
Side bearing	Edwin S. Woods & Co., Chicago
Side-bearing wedge	American Car & Foundry Co., New York
Truck side frames and bolsters	Bettendorf Company, Bettendorf, Iowa
Barber truck stabilizer	Standard Car Truck Co., Chicago



A Close-Up View of the Main Stores Building, 180 Ft. Long by 40 Ft. Wide

New Union Pacific Storehouse Has Effective Features

Well laid out unit at North Platte, Neb., of pre-fabricated steel construction, has fully insulated walls and ceiling

THE Union Pacific recently completed new stores department facilities at its engine terminal at North Platte, Neb., including a large concrete platform area and a sizable steel-faced, fully insulated, one-story stores building, which are of particular interest because of their extent and the high utilitarian value secured at a relatively small capital outlay. It is also of interest to note that, through the type of construction employed, the facilities were made available in a minimum of time, the main stores building, which is 180 ft. long by 40 ft. wide, having been completed, above its platform level, and made ready for occupancy in approximately two weeks' time.

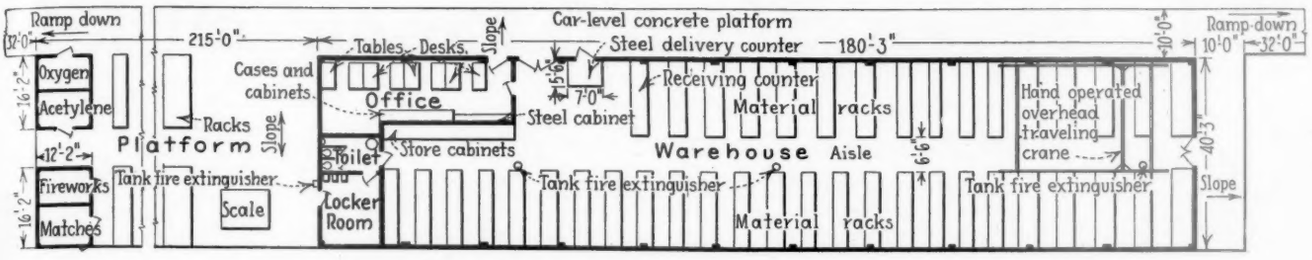
The new facilities are located near the 28-stall enginehouse and directly opposite the new 228-ft. by 95 ft. machine shop constructed in 1936. They include primarily a car floor-level concrete platform 405 ft. long by 50 ft. wide, with a ramp to the ground level at each end; the new stores building, 180 ft. long by 40 ft. wide, provided with suitable office space and modern material racks; two smaller one-story buildings, isolated from the main building, for the storage of inflammable materials; a large number of exterior material racks, bins and platforms for the storing of various materials and parts in the open; and a six-ton platform scale, for such weighing as may be necessary in connection with the stores department work. These facilities are all served by a new service track, extending along one side of the elevated platform.

In the arrangement of facilities, the storehouse is located toward the east end and the south side of the platform, providing an open platform area 10 ft. wide on its east end, and along its north face which fronts on the service track. The smaller stores buildings, approximately 16 ft. long by 12 ft. wide, are, because of the character of their occupancy, located at the extreme west end of the platform, the space between these buildings and the main storehouse being occupied by material racks and the platform scale. Many of the heavier materials kept at the storehouse, including steel plates and bars, tires and boiler tubes, are stored in the open on the side of the service track opposite the long stores platform, where an area was cleared and provided with suitable racks and platforms for this purpose. These racks and platforms are constructed largely of scrap rail and timber, supported on pre-cast concrete footings or piers.

The main material platform has a 6-in. concrete deck, which rests on a compacted gravel fill, retained on the sides and ends by 12-in. concrete face walls. The stores building is of the pre-fabricated or industrial type, with a bolted structural steel frame and a double-pitched roof which spans the floor area without obstruction. Along its south side, it is carried by the platform wall, while on its other three sides it is supported on its own continuous concrete footing, carried down through the platform level.

The wall enclosures of the building are of Ferroclad structural panels, with practically continuous sections of fixed or ventilating sash near the top, except for such areas as are occupied by doors. The roof, on the other hand, has a Ferrobord steel deck, provided with standard built-up roofing. A feature of the exterior walls and roof is the fact that they are insulated against heat transmission, which is of particular importance in the vicinity of North Platte, where extremely low temperatures prevail during a considerable part of the winter.

The Ferroclad wall panels, which are 4 ft. wide, are rigid structural panels of fibre board insulation faced on both sides with galvanized steel sheets cemented firmly to the insulating core. These panels, which are 1 in. thick, are said to have an insulating value equal to approxi-



General Floor Plan of the New Storehouse at North Platte, Neb.

mately 15 in. of brick or 25 in. of concrete. They are set up vertically, and are supported at both top and bottom, and at all vertical joints, by light structural members of the building. All vertical joints are covered on the exterior side by continuous pressed metal caps, secured to the structural wall-supporting members by means of bolts which extend between adjacent panels. All of the window sash throughout the building are of steel, those in the storeroom area being of the 6-light type, equipped with mechanical operating devices, while those in the office area are of the 12-light type and provided with hand-operating devices. The exterior doors of the building, of which there are four, single or double, are of steel construction, and, like the wall panels, are insulated against heat transmission.

The Ferrobord roof deck employed is a pre-fabricated type of deck consisting of light-weight, channel-like interlocking units, made up from 20-gage galvanized sheets. These units, which are 1½ in. deep, and which provide a smooth top surface as laid, are, in the North Platte storehouse construction, covered with 1-in. sheets of cane fibre insulation, which are, in turn, water- and weather-proofed with a built-up roof covering. Thus, the entire building, while of light-weight construction, with thin walls and roof deck, is not only strong structurally and weather-tight, but also affords high resistance to heat losses during the winter months.

Within the storehouse, the entire floor area is occupied by material racks, except at the west end where partitioned areas are given over to an office and toilet and locker rooms. The office area, approximately 40 ft. long by 12 ft. wide, provides adequate room for the clerical forces at the store, and has a finished interior, including a ceiling suspended from the roof trusses. The locker room is 22 ft. long by 12 ft. wide, while the connecting toilet room is approximately 12 ft. by 7 ft.

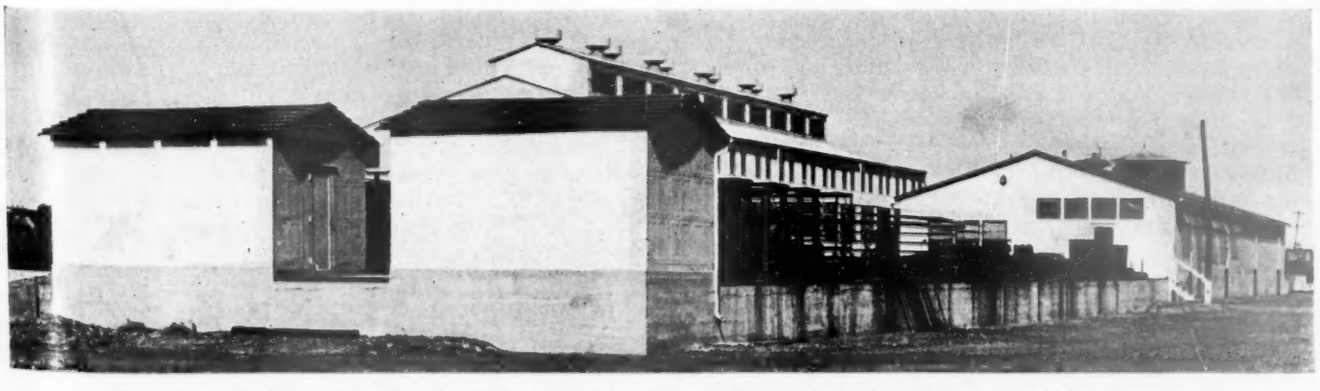
Within the warehouse area there are a total of 40 multiple-bin material racks, in addition to a number of special cabinets and two receiving counters located on the track side. The material racks, all of which are of steel construction, are each 16 ft. long by 3 ft. deep, open on both sides, and are arranged in rows on each side of a 6½-ft. aisle, longitudinally through the center of the building. The spacing between individual racks on each side of the building is approximately 42 in., affording adequate space for lighting and ready access to the individual bins or shelves. A feature of the rack facilities provided is that compressed air, furnished by the terminal power house, is piped along both sides of the building, adjacent to the ends of all of the racks, whereby they can be blown free of any accumulated dust or dirt.

Daylighting within the building is afforded by the liberal areas of sash along the wall faces, while night illumination is provided by both ceiling lights and drop-cord fixtures between adjacent racks. The electric wiring system throughout the building is sectionalized, so that, while adequate illumination can be afforded at any point desired, the over-all lighting current costs can be kept to a minimum.

Heating within the warehouse area is provided by means of eight unit-type heaters suspended from the roof trusses at strategic points, while heating within the office, toilet and locker room areas is provided by means of wall-type radiators. Steam for the heating system throughout is provided by the power plant at the terminal.

The only special material handling equipment within the storehouse is a 500-lb., hand-operated traveling crane, which is located at one end of the building where heavier parts are stored and handled. This crane, with a 35-ft. runway, is effective over an area of approximately 750 sq. ft., including a 35-ft. section of the center trucking aisle.

A feature of interest in connection with the new storehouse is that, employing only a relatively small force, the main building was completely erected, above its foundation and floor level, including its insulated, waterproofed roof deck, in 10 working days. The total cost of the improvements, which were carried out under the direction of B. H. Prater, chief engineer, was approximately $55,000.



New Stores Facilities, From the Far End of the Open Storage Platform. Small Buildings at the Left Foreground Are for the Storage of Inflammable Materials

J. L. Beven Elected President I. C.

L. A. Downs named chairman of the board after forty-two years service with this road and its subsidiary

J. L. Beven
President, Illinois Central

L. A. Downs
Chairman of the Board, Illinois Central

ON December 14 John L. Beven, senior vice-president of the Illinois Central System, was elected president to succeed Lawrence A. Downs, and Mr. Downs was elected chairman of the board.

Mr. Beven is the second president of the Illinois Central to rise from the ranks on the railroad, Mr. Downs having been the first. Mr. Downs' employment by the railroad covers a period of 42 years, while Mr. Beven's covers a period of 39 years. Mr. Downs had been president since 1926, and Mr. Beven, as senior vice-president, has been his "right-hand man" since 1931.

The Illinois Central has a long record of efficiency and public-spirited management, and never has that record been better than during recent years. All railroads have been hard-hit by the long depression, but the Illinois Central has been harder-hit than most of them, and keeping it in a solvent condition while maintaining its service has required the very efficient operation that it has had. No figures could illustrate more strikingly what has been accomplished than those regarding its operating and financial results during the last two years. In the first ten months of 1937 its gross earnings were $95,041,000, and in the first ten months of 1938 they were $86,691,000, a decline of $8,350,000. In the first ten months of 1937 its operating expenses were $73,474,000, and in the first ten months of 1938 were $63,516,000, a reduction of $9,958,000. To have reduced operating expenses more than gross earnings declined in a year of almost unprecedented business recession was a very real achievement.

Under the managements of both Charles H. Markham and Mr. Downs the Illinois Central has been notable for the unusual and successful attention given to relations with both the public and employees. Mr. Beven has been a strong believer in and promoter of these activities, and undoubtedly under his presidency they will be fully maintained.

Lawrence A. Downs

Mr. Downs was born at Greencastle, Ind. Following graduation from Purdue University, he was employed for a short time on the Vandalia Railroad, now part of the Pennsylvania. In 1896 he joined the engineering corps of the Illinois Central at Chicago. Six months after he came to the Illinois Central he was promoted from rodman to instrumentman, and the next year, 1897, he was appointed assistant engineer. A year later, at the age of 26, he was made roadmaster in charge of the maintenance of tracks and structures on an operating division. He served nine years as roadmaster at La Salle, Ill., Louisville, Ky., New Orleans, La., Clinton, Ill., and Chicago. In 1907 he was promoted to assistant chief engineer maintenance of way for the entire system.

In 1910 Mr. Downs asked to be transferred from the engineering department to the transportation department and was appointed division superintendent at Fort Dodge, Ia. He later served as division superintendent at Dubuque, Ia., and Louisville, Ky. In 1914 he was promoted to general superintendent of Southern Lines at

New Orleans. Two years later he was transferred to Chicago as general superintendent of Northern Lines. In 1919 he was appointed assistant general manager.

In 1920 Mr. Downs was elected vice-president and general manager of the Illinois Central-owned Central of Georgia Railway and moved to Savannah, Ga. In 1924 he succeeded to the presidency of the Central of Georgia Railway and of the Ocean Steamship Company of Savannah. He returned to the parent company on his election to succeed C. H. Markham as president of the Illinois Central System in 1926.

Mr. Downs is a charter member and past president of the American Railway Engineering Association and is a member of the American Society of Civil Engineers. He is a director of the Continental Illinois National Bank and Trust Company of Chicago and the Railway Express Agency, Inc., and is trustee of the Mutual Life Insurance Company of New York and of Armour Institute of Technology at Chicago. He is president of the Indiana Society of Chicago and is a member of the Sovereign Military Order of the Knights of Malta. He is a member of the national executive committee of Sigma Chi fraternity. In 1929 Mr. Downs received the honorary degree of doctor of engineering from Purdue University, and in 1931 he received the honorary degree of doctor of laws from Centenary College of Louisiana.

John L. Beven

Mr. Beven started to work for the Illinois Central at the age of 12 as messenger in the local freight office at New Orleans. He was born at McComb, Miss., in a house that was owned by the Illinois Central and rented by his father, William Beven, who was an Illinois Central locomotive engineer between McComb and New Orleans. His father worked for the Illinois Central for fifty-two years.

From his start as messenger in the local freight office at New Orleans, the future president of the Illinois Central held various office positions until 1912, when he was appointed chief clerk to the superintendent at McComb. Later he was chief clerk to the general superintendent at New Orleans, and among the general superintendents for whom he worked as chief clerk was Mr. Downs.

In 1915 Mr. Beven was appointed trainmaster on the Louisiana division at McComb, and in 1916 he was promoted to superintendent of the New Orleans terminal divisions, becoming division superintendent at the age of 29 years. In 1918 he was temporarily assigned to the United States Railroad Administration, first at Atlanta, Ga., later at Philadelphia, and then was appointed assistant to the federal manager of the Illinois Central at Chicago. In 1920 he was advanced to the position of assistant to the senior vice-president; in 1923 to the position of assistant to the president; in 1925 to vice-president, and in 1931 to senior vice-president.

Mr. Beven is chairman of the board of the Madison Coal Corporation and of the Peoria & Pekin Union Railway. He is president of the Chicago & Illinois Western Railroad and is director of the Central of Georgia Railway and of the Terminal Railroad Association of St. Louis.

A 44-PAGE BOOKLET DESCRIBING FAST FREIGHT SERVICES in full has recently been issued by the London & North Eastern (Great Britain) which contains diagrams illustrating areas covered and tables listing the number of fast freight trains, their running times and hours of delivery. Special details of the main services between London and the north of England and Scotland are also given.

T. & P. Operates Trucks Safely

THE Texas & Pacific Motor Transport Company, like many other highway subsidiaries of the railways, is establishing an excellent safety record in operating its trucks. In more than 3,500,000 miles of truck operation by the transport company there have been no injuries to persons, and only a few accidents involving minor property damage. On the T. & P., as on the other lines, this has been brought about by the application to truck operation of the same principles that have resulted in the excellent safety record in railway operations for years, with, of course, certain changes to adapt the system to highway operations.

Safety work for the transport company is in charge of a supervisor who serves the same functions as the safety superintendent on the railway. In addition to the customary talks on safety, and the reviews of highway accidents occurring elsewhere to bring out dangerous practices to be avoided on the T. & P., each driver is provided with a book of rules. This book is concise but complete and the truck drivers are as familiar with its contents as are railway employees with their book of rules. In fact, the general rules of the two books are quite similar, including an exact duplicate of Rule G. The officers of the transport company supervise this closely and conduct frequent tests and examinations among the drivers to make sure that they are familiar with every phase of the rules. No new driver is permitted to start his student trips until he has passed a complete rules examination.

While the transport company has an efficient mechanical, servicing and garage department, a further check to insure that the equipment is in first class shape is provided by a number of rules requiring the driver to assure himself of the proper condition of his truck before starting on each run. These rules have particular reference to brake inspection, checking all lights, seeing that trailer connections and brakes are fully operative, and the proper distribution of the load so that the driver's view is not obstructed.

Included also among the 125 operating rules are complete instructions regarding the operation of the trucks on the highways, in which safe running and road courtesy are stressed and speeding and other dangerous practices are specifically forbidden, even when, because of weather conditions and other causes, the driver has fallen behind on his schedule. Maintenance of schedules is considered desirable, and the T. & P. has a good record in this respect, but safety considerations always come first.

Since employee solicitation has been most successful in securing traffic for the transport company since its inception, the book of rules also contains complete instructions in this regard, as well as a line-up for handling waybills and making collections. The proper stowing of freight is also dealt with in detail, both from the standpoint of efficient loading and unloading in station order and the avoidance of damage to the freight or injury to the employees handling it.

By making safety and courtesy the prime considerations, and by selecting drivers who will familiarize themselves with and follow the comprehensive rules, the company has established its safety record. It has avoided incurring the ill-will of other persons using the highways, many of whom are shippers and receivers of freight; and, by obeying scrupulously all the rules of towns through which the trucks pass, it has created confidence in its employees among townspeople who are customers of the transport company and the railway as well.

Collision Effects on Lightweight Coaches

Bureau of Safety report of Tortuga, Calif., wreck analyzes damage distribution in trains of mixed heavy and light rolling stock

A HEAD-ON collision between two passenger trains which occurred on September 2, 1938, on the Southern Pacific at Tortuga, Calif., has attracted an unusual amount of attention because of its effect on certain cars of lightweight alloy-steel construction in each of the two passenger trains involved. The report of the director of the Bureau of Safety of the investigation of this accident, which has been issued under date of December 2, deals with this aspect of the accident as well as with the circumstances relating to its cause. In the following summary of the report the portions dealing with the damage to the rolling stock are extracted in full.

The accident was a head-on collision between two passenger trains, No. 44 eastbound, which was standing on a siding, and No. 5 westbound, which entered the siding at between 30 and 40 miles an hour when the switch was thrown directly in front of the approaching train. The accident resulted in the death of eight passengers and three employees and in the injury of 132 passengers, three railway mail clerks, three Pullman employees and one train-service employee.

Description of the Accident

Train No. 44, the eastbound passenger train known as "The Californian," which was standing on the siding at the time of the accident, consisted of two baggage cars, four chair cars, one diner, three Pullman tourist sleeping cars, and one lounge car, in the order named, of standard all-steel construction, except the third, fourth and fifth cars which were constructed of Cor-Ten and stainless steel and were so-called lightweight streamline cars, hauled by engine 4304. Train No. 5, the westbound passenger train known as "The Argonaut," consisted of one combination mail and baggage car, one baggage car, one coach, two chair cars, one Pullman tourist sleeping car, one diner, one lounge car, five Pullman sleeping cars, and one business car, in the order named, of standard all-steel construction, except the fourth car which was a so-called lightweight streamline car constructed of Cor-Ten and stainless steel, hauled by engine 4362.

No. 44 was shoved westward approximately 88 ft. by the impact; the locomotive was practically demolished and stopped on its left side and about 20 ft. north of the north rail; the tender stopped on its left side, badly damaged, attached to and behind the locomotive. The first and second cars, coupled together, were derailed and stopped upright on the siding; the front end of the first car was telescoped a distance of about 3 ft. by the rear of the tender and it stopped at a point 20 ft. west thereof; the rear end of the second car stopped on the transom of the third car. S. P. 2418, the third car, and the front car of an articulated two-car unit, was derailed and stopped upright and in line with the siding; the front end was telescoped a distance of 18 ft. by the rear end of the second car; the superstructure of the front end, containing 16 seats, was demolished. All of the passengers killed were in this car. S. P. 2419, the rear car of this unit, and the other larger cars were neither derailed nor damaged.

The locomotive of No. 5 was practically demolished and stopped on its right side on the siding at an angle of about 45 deg. thereto, with its rear end fouling the main track and the front end about 10 ft. from the front end of the locomotive of No. 44; the tender and the first car stopped on their right and left sides, respectively, north of the track, next to and parallel with the locomotive; both were badly damaged. The second car, T. N. O. 608, passed the first car and the tender and stopped upright on the siding with its front end telescoped a distance of 18 ft. and against the overturned locomotive. The rear end of the third car and the front end of the fourth car, S. P. 2438, buckled to the south and stopped on their left sides at an angle of about 45 deg. to the main track, with their north ends adjacent to the rear end of the second car and their greater portions lying on the south side of the roadbed: the third car was badly damaged and the fourth car was demolished. The head end of the fifth car was forced to the north, and stopped upright adjacent to and parallel with the fourth car; it was badly damaged. Both trucks of the sixth car and the leading truck of the seventh car were derailed; these cars stopped in upright positions and remained coupled to the remaining seven cars which were neither derailed nor damaged.

The employees killed were the engineman and the fireman of No. 5 and the fireman of No. 44; the employee injured was the head brakeman of No. 5.

Summary of the Evidence

Engineer of Car Construction Dailey of the Southern Pacific Company, stated that he was fairly familiar with the construction of the lightweight streamline equipment involved in this accident, having been at the car works when these cars were built. He said that the chief engineer of the Pullman-Standard Car Manufacturing Company said they met all the strength requirements of the Post Office Department specifications, the underframe being designed for a buffing strength of 400,000 lb. He stated there was no denying the fact that the lightweight cars suffered greater damage than the regular equipment in the accident, but he could offer no explanation for it as they have been operating for years in the same service without any trouble, but had never had an accident test of this kind before. He thought the Pullman Company made a test of a section of an underframe at its plant about November and that they may have a record of it showing a test of 1,000,000 lb. applied to the center sills, which seemed to provide a good factor of safety.

He stated the underframe stood the accident very well although it cracked, but the superstructure did not stand it so well. His opinion was that R. I. car 4120

jumped up above the coupling when its center-plate rivets sheared so that it telescoped the lightweight car 2418. The car body, the roof, underframe and the truss construction are of Cor-Ten steel; the lightweight equipment suffered more damage in both trains than did the conventional equipment, and lightweight car 2438 in train No. 5 was the only car damaged beyond repair; all the passengers killed were in lightweight car 2418, and he thought that if the superstructure had stood the shock as well as the center sills there would have been considerably less damage and probably no fatalities. It was his opinion that had car 2418 been of open-hearth steel, standard construction, it would have telescoped just as far and as badly and the loss of life would have been as great. However, he also stated that in his opinion Cor-Ten steel, being much harder than open-hearth steel, its shearing value would probably be less than open-hearth, and stated that this was demonstrated by some of the other cars where the open-hearth end posts bent back but did not break, while on car 2418 the Cor-Ten end posts were sheared off. It was his opinion that end posts of open-hearth steel would have better resisted shearing.

He stated that he intended to give further consideration to lightweight cars and discuss their construction with his superiors; and also that the chief engineer of the Pullman Company had advised him he was going to give these matters further study. He said the use of open-hearth steel for center sills, and also for end posts to comply with the Post Office Department specifications, is being seriously considered, as well as the possibility of applying a plate from the corner post to the bolster, from the side sills to the belt rails, and welding this plate to the frame construction. He said he was still of the opinion that it is safe to operate lightweight cars in association with conventional steel cars and that he did not think it necessary to have them placed at the rear of conventional equipment.

Master Car Repairer Peek stated that he heard the statements of the engineer of car construction and agreed with them from a practical standpoint.

According to the carrier's specifications of these so-called lightweight cars, the car structure in general, including underframes, side framing, end and roof framing, etc., were fabricated of high-tensile alloy steel of self-supporting, welded construction as developed by the Pullman Company; the yield point specified for this steel being a minimum of 50,000 lb. per sq. in. and the ultimate strength a minimum of 75,000 lb. per sq. in.; the cars were sheathed with corrugated stainless steel. The specifications provide for buffing stresses of 400,000 lb. at the draft gear without the use of buffers. The weight shown in records for articulated cars 2418 and 2419 is 86,770 lb. and 86,150 lb., respectively, and for unit cars Nos. 2436 and 2438, having two trucks each, it is 104,500 lb. and 104,700 lb., respectively.

In the table is a statement of damage to equipment as reported by the carrier.

Southern Pacific lightweight cars 2418 and 2438 were built in May, 1937, by the Pullman-Standard Car Manufacturing Company. Records secured from this company show that in October, 1936, tests were made of a section of a Cor-Ten steel underframe which was duplicate of that used on the Southern Pacific streamline cars involved in the accident. The section was 8 ft. 1/8 in. in length, which represents the greatest unsupported span which occurs at the center of the car, the cross-sectional area being 18.883 sq. in. The test was made in a wheel press, extensometers being applied at several points on the center-sill section. Actual extensometer stress readings were made up to 900,000 lb., at which point the instrument readings were discontinued, but calculated stresses were applied up to 1,000,000 lb. pressure, at which point it was apparent that the yield point had been reached. The same section of underframe was subjected to a test made by the Pennsylvania Railroad at Wilmington, Del., about February, 1937, and withstood a pressure of 920,000 lb. before any sign of failure or distortion appeared.

Damage to Cars and Locomotives in Trains No. 5 and No. 44

WESTBOUND NO. 5 (MOVING—14 CARS)

Position in train	No.	Estimated damage
Engine	4362	$50,000
First car, B. & M.-S. P.	5126	8,000
Second, car, baggage, T. & N. O.	608	4,500
Third car, chair, T. & N. O.	401	5,000
Fourth car, streamline chair (lightweight)	2438	60,000
Fifth car, chair, S. P.	2534	1,500
No damage back of fifth car		
		$129,000

EASTBOUND NO. 44—(STANDING—11 CARS)

Engine	4304	$50,000
First car, baggage, Rock Island	4129	2,000
Second car, baggage, Rock Island	4120	3,500
Third car (articulated chair)	2418	40,000
Fourth car (lightweight)	2419	None
Fifth car (lightweight)	2436	None
No damage back of third car		
		$95,500
Total, both trains		$224,500

Chief Engineer Parke of the Pullman Company also referred to another test of this same type of car made by the Pennsylvania Railroad in connection with the construction of cars of the same type for their service. For this purpose the Pullman Company furnished a complete skeleton car frame, without interior finish, windows, etc., and the test was made in February, 1938, at Altoona shops of the Pennsylvania. The actual full-size car frame was subjected to a longitudinal compression test and the report covering this test shows that the center sills began to spread just back of the draft casting when a pressure of 395,000 lb. was indicated by the hydraulic gage, or at a pressure of 370,000 lb. as indicated by Brinell. The test was stopped at this point and a plate 5/16 in. by 22½ in. by 25 9/16 in. was applied to the bottom of the sill, after which the test was continued up to a pressure of 909,000 lb. on the hydraulic gage. The report shows that the draft casting failed at 882,000 lb. and the center sill cracked at 909,000 lb.

Discussion

The investigation disclosed that all of the fatalities to passengers occurred in the third car of No. 44, which car was the forward section of a two-car articulated unit of lightweight streamline design. The car was telescoped a distance of 18 ft., or slightly more than one-fourth of its total length, sustaining far more serious damage than either of the two cars ahead of it. In No. 5, the car which sustained the greatest damage was the fourth car, which was practically demolished and which was likewise a lightweight, streamline car.

In both of the trains involved in this accident these lightweight cars were being operated in association with heavy, all-steel, standard equipment, the lightweight cars being the third, fourth and fifth cars in the 11-car eastbound train, and the fourth car in the westbound 14-car train. All other cars in each of the two trains were of heavy, all-steel, standard type, thus placing the lightweight cars between the standard cars and ahead of the heavier diners, lounge cars and sleepers.

Obviously, in the collision, the most violent impact occurred between the two locomotives, which were practically demolished and a great amount of the destructive

shock was thus dissipated. The destructive shock then progressed backward, carrying to the fifth car in No. 5 and to the third car in No. 44, there being no damage to equipment in either train back of these points. There was considerable damage to the forward standard cars in each train, further dissipating the destructive force, but the first lightweight car in each train suffered the greatest damage. It is evident that the collapse of these cars further absorbed the destructive shock to such an extent that but little damage occurred beyond them.

The statement of the damage to equipment discloses that of the total of $124,500 estimated damage to cars, $100,000 or 80 per cent of the total amount was on lightweight cars which constituted only 16 per cent of the total number of cars involved. The 21 standard cars, constituting 84 per cent of the total cars involved, suffered only $24,500 damage, or 20 per cent of the total amount. Considering only the eight cars within the zone of actual damage at the forward end of each train, the six standard cars in this zone suffered $24,500 damage or an average of $6,083 per car, while the two lightweight cars in the same zone averaged $50,000 damage per car.

The evidence indicates that no tests were made by the Southern Pacific as to the strength and stability of these lightweight cars as compared with the heavy steel cars of standard designs with which they were associated in trains. Apparently the cars were accepted from the manufacturer with the understanding that they met the requirements of Post Office Department specifications for railway mail cars, and that the underframes were designed to withstand buffing stresses of 400,000 lb. The Postal Department specifications require a safety factor of two in the calculation of buffing stresses, fixing the minimum for actual failure due to buffing shocks at 800,000 lb. It appears from the records that the manufacturer relied upon calculations and the result of two tests made with an eight-foot section of the underframe in the matter of buffing strength, rather than on any test with a complete car structure. A few months subsequent to the construction of the Southern Pacific cars involved in this accident, tests were made by another carrier of the same type of car, using a complete underframe with skeleton car body, furnished for the purpose by the same manufacturer, and in these tests the center sills began to spread at 395,000 lb. pressure; a reinforcing plate was then applied, and pressure was then increased to approximately 900,000 lb. before failure occurred. It does not appear that a similar reinforcing plate was applied to the Southern Pacific cars.

During the development in recent years of the so-called lightweight, streamline equipment for passenger train service, the Bureau of Safety has on various occasions, stressed the necessity for maintaining that high degree of safety which has been developed by years of experience in steel passenger-car construction. In the annual report for the fiscal year ended June 30, 1936, in referring to streamline, lightweight cars, the following statement was made: "Equipment of this type must be considered as being still in the experimental stage. As yet there is no case on record where a train of this type has been involved in a serious collision or derailment of such character as to furnish data relative to its ability to withstand impact shocks and tearing and shearing stresses."

The accident here under investigation constitutes the first demonstration of the ability of such equipment to withstand impact shocks of a major collision; what would have occurred had either train been made up entirely of standard equipment or lightweight equipment is a matter of mere conjecture or speculation. The results of this accident raise a grave doubt whether the operation of such lightweight cars between or ahead of heavy, all-steel cars of standard design should be permitted until their ability to withstand shocks with equal safety has been proved by appropriate tests; furthermore, the effect of operating cars without buffers in association with cars having buffers also should be given careful consideration.

Conclusion

This accident was caused by a switch being opened directly in front of an approaching train.

Recommendation

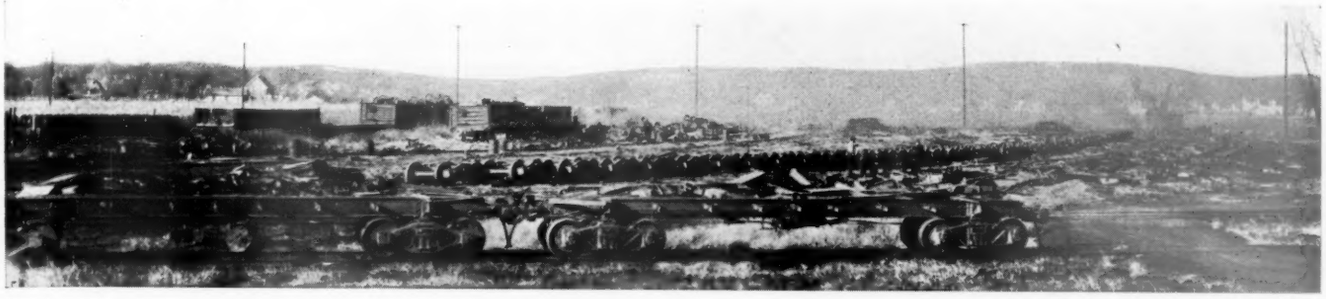
It is recommended that railroad officials give serious consideration to the discontinuance of operation of so-called lightweight cars between or ahead of standard cars unless and until the strength of construction has been determined by suitable tests to be substantially the same as that of other cars with which they are associated.

* * * *

Ballast Car of 70-Ton Capacity Built by the American Car & Foundry Company for the M-K-T

Rock Island Junks Old Equipment

Large scale rolling stock dismantling program cuts repair costs and provides ready cash—Farmers buy car bodies



A View of the Car Dismantling Yard

Steps in Dismantling Cars

HAND in hand with an improvement program which is being financed mostly out of earnings and extends into all phases of betterment, the Rock Island is carrying on a large junking program which is eliminating old rail and rolling stock and at the same time contributing substantially to the funds from which the new work is being financed. In two years the railroad has dismantled 5,800 freight cars and, with the moderate recovery of scrap prices, is now wrecking equipment at the rate of 200 freight cars and 15 locomotives a month—and incidentally getting a good price for old car bodies.

Busy with Improvements

Besides 20 streamlined passenger cars for new trains, 10 light-weight passenger cars and 350 automobile cars purchased with loans and six Diesel-electric power units for passenger trains and 37 Diesel-electric switchers, acquired under lease, since January, 1936, the railroad has installed one snow plow, one pile driver and one business car (all purchased this year), and eight automobile inspection cars. It has remodeled or air conditioned out of earnings 97 passenger cars and has built or rebuilt 100 cabooses, 35 coal and sand cars, 99 automobile cars, 200 flat cars and 50 stock cars and 400 box cars. It has applied cast steel engine and trailer trucks to 3 locomotives and roller bearings to 11 locomotives and increased the water capacity of 61 tenders from 5,000 to 10,000 gal. each.

During the same period the road took up 150 miles of tracks in yards and sidings and 65 miles of branch lines, laid 679 miles of new and 319 miles of second hand rail, ballasted 1,415 miles of line, renewed 3,295,000 crossties and 5,700,000 f. b. m. of switch ties, retired 555 buildings and painted 617 buildings. It has installed 586 miles of new automatic block signals, spent approximately $1,000,000 in bridge improvement, built seven modern coaling stations, erected facilities at five points for maintaining new trains, rebuilt or improved seven freight houses and depots, electrified 12 engine terminals, constructed drop pits, cranes and other facilities or additions at eight engine terminals and has important im-

Above: Steps in Dismantling the Locomotive

Right: View of Locomotive Dismantling Yard

provements in line and grade underway at six locations. The railroad's improvement program also included 68 grade separations and 48 grade crossing protection projects and the purchase of 27 roadway machines for track work.

Millions from Scrap

Improvements require money. The road had far more light rail (under 80 lb.) than it could ever use and a large accumulation of cars and locomotives which were not worth shopping. Scrap prices were high, excellent facilities for economical dismantling were available and material could be obtained from the old equipment, which would otherwise have to be purchased on the rising market—hence the decision to supplement improvement work with large scale dismantling. In 1937, 3,769 cars were dismantled and 60,600 tons of rail were sold. The equipment consisted of 1,901 box cars, 812 automobile cars, 226 stock cars, 320 coal cars, 8 flat cars, 43 cabooses, 249 ballast cars and 219 work cars. Approximately 2,513 cars were demolished at one point.

Cars Retired in 1937

	Silvis	All Points
Box	1,161	1,901
Automobile	707	812
Stock	104	226
Coal	268	320
Flat	6	8
Cabooses	3	43
Ballast	217	249
Passenger	23	23
Work	24	210
Total 1937	2,513	3,760

In the 10 months ending October 31, 1938, 2,057 more cars were dismantled.

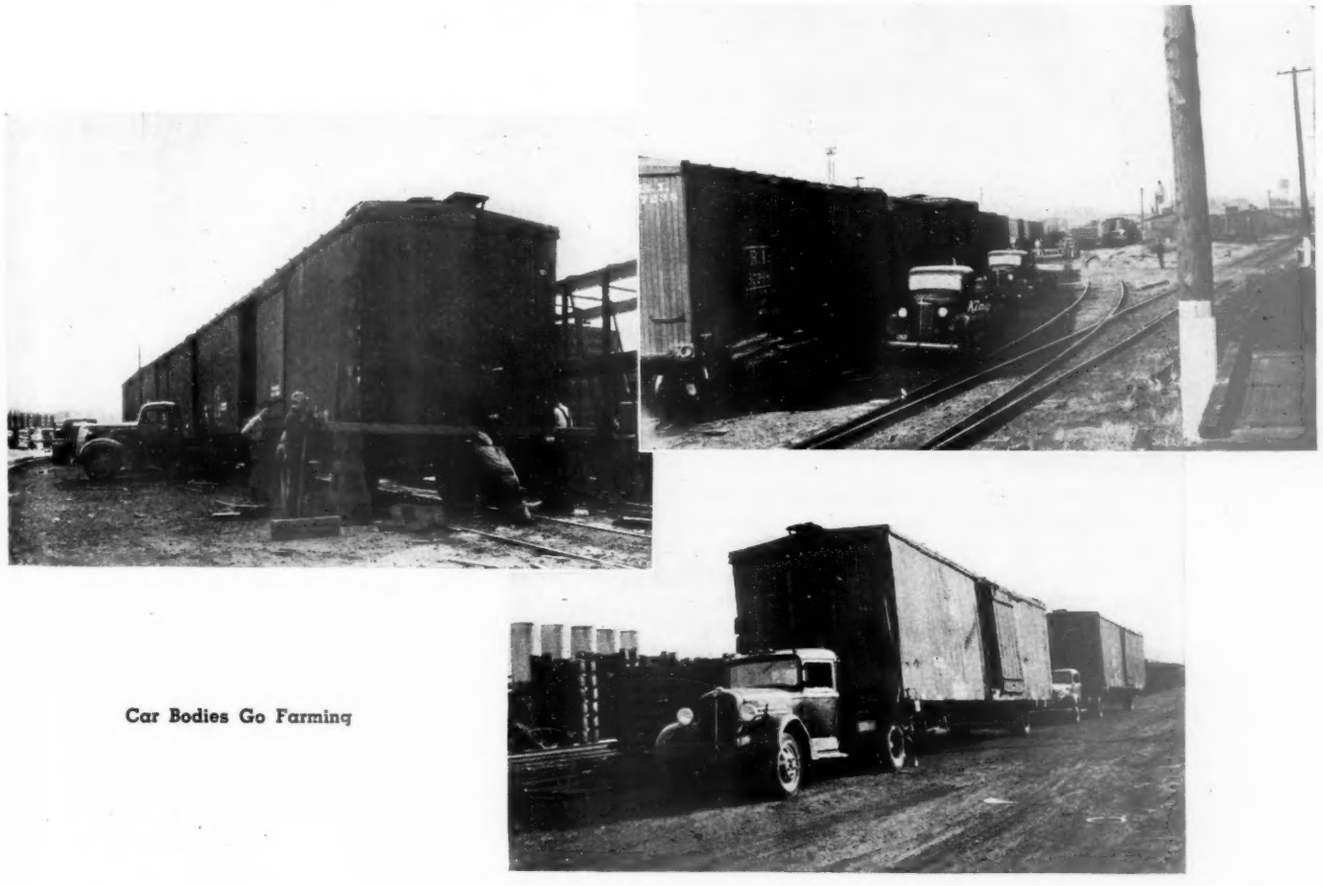
In the year 1937, $2,577,902 of scrap was sold, including $1,322,558 of miscellaneous scrap, $262,299 of scrap wheels and $992,045 of scrap rail. Materials were recovered and reconditioned for use for $448,413 less than it would have cost to buy new materials of the same kind and this material was exclusive of salvage stored for reconditioning.

Dismantling Centralized

The dismantling plan has been to bring to Silvis, Ill., all condemned locomotives and all condemned cars in rolling condition. Chicago, 174 miles distant, is the railroad's best scrap market and Silvis is the location of the general store and main shops of the railroad where equipment can

be dismantled and prepared for sale with the least rehandling and where recovered material can be prepared and redistributed most economically.

A schedule specifies the maximum expenditure permitted to put each class and series of equipment in condition for first class service at any one shopping. The figure is exclusive of wheels, couplers, trucks and body bolsters, draft gear and truck parts. Expenditures for running repairs are permitted up to 10 per cent of the standard maximum. The limit is $50 on some cars, $100 on other cars and $200 on still other cars, and $2,000 to $10,000 on locomotives. A uniform schedule of material prices, including shop and stores expense, is prescribed for estimating expenditures. Where the cost of repairs exceeds the allowable limit the cars are set aside for final inspection, following which they are properly labelled and placed in the rear of trains for movement to the dismantling point. In this movement they are loaded with company material whenever practical. Equipment that cannot be moved is dismantled locally and the scrap shipped to Silvis for further handling.



Car Bodies Go Farming

Sell Car Bodies

The territory through which the railroad operates is largely agricultural and, from the outset of the dismantling program, box car bodies in reasonably good repair have been in demand, especially by farmers for use in building barns and even houses, and also for storing grain until the prices return to a parity with the prices guaranteed by the government to farmers who subscribed to the government crop control scheme or until the government takes the corn in payment of the loans. In the case of corn, these loans amount to 50 cents or more per bushel which is more than $150 more per car load than the farmers can sell it for at present prices. To meet this demand, the railroad has been selling the car bodies at prices ranging from $25 to $50 each and disposed of 770 car bodies in this manner in 1938. This year the sales at Silvis are made to contractors who truck the ready-made building over the highway for distances up to 100 miles.

All condemned box cars reaching Silvis with salable bodies are set on tracks in the car repair yard which are accessible from the highway. Car repairers, equipped with portable acetylene outfits, cut the bodies loose from the underframes and strip off grab irons, brake staffs and other fastenings. The drivers and helpers of several trucks then help each other remove the bodies. They raise the bodies off the trucks one at a time, push the underframe in the clear and place trailer wheels in position under one end of the car body. A truck is then backed crosswise under the other end, and the body pulled into the clear, whereupon the truck, equipped with a swivel center plate, is swung into position in front of the car body and made fast to the tongue of the trailer wheels, and the car body is ready for the road. At outlying points, the metal on the bodies is detached and loaded by the purchasers, who are usually farmers.

Special Yard for Cars

In addition to these cars, other cars are set aside and the inside sheathing removed for further use by the railroad. All other box cars received at Silvis and all cars from which the bodies have been removed at Silvis, are switched into the car-dismantling yard where the wood bodies are burned and the underframes and trucks are reduced to scrap and salvage.

This yard was previously laid out for storing coal. While approximately one-half mile distant by rail from

the system's scrap handling facilities and material storage yards, it is free from fire hazards and has four spur tracks, each approximately 1,000 ft. long, which are arranged in pairs so that alternate tracks can be used for loading. The yard has approximately 2,000 feet of underground oxygen and acetylene lines which are connected with an overhead extension from the Air-Reduction-equipped central distributing plant near the shops. This

The Crane in the Car Dismantling Yard Operates a 42-in. Magnet

reduces both the expense of gas and the handling of gas cylinders. The yard has a steam locomotive crane of 25 tons capacity, operating a 40-ft. boom and a 42-in. magnet, also a press for dismounting wheels and two air hoists for handling wheels.

The yard is operated jointly by mechanical and store forces. The mechanical forces, in keeping with shop craft agreements, perform all dismantling, which includes setting off the car bodies and removing couplers, brake beams, brake cylinders, brake masts, grab irons, etc. Store department forces prepare the scrap for sale and recover any reclaimable materials.

From 10 to 20 cars are demolished at one time. Cars with wood bodies are usually set off on the burning track in the afternoon and the bodies are burned at night so that the metal will cool by the next morning. Most of the scrap is reduced to heavy melting steel, which reduces to a minimum the amount of sorting required in handling. During the cutting operation the metal from bodies, frames and trucks, with the exception of wheels, is practically all left by the men where it falls. The crane operator has the run of one track in each pair and when not engaged in setting off cars for burning, alternately picks up each grade of material and loads it into cars. With the magnet it is possible to segregate the scrap and to salvage from the scrap with little assistance from ground men.

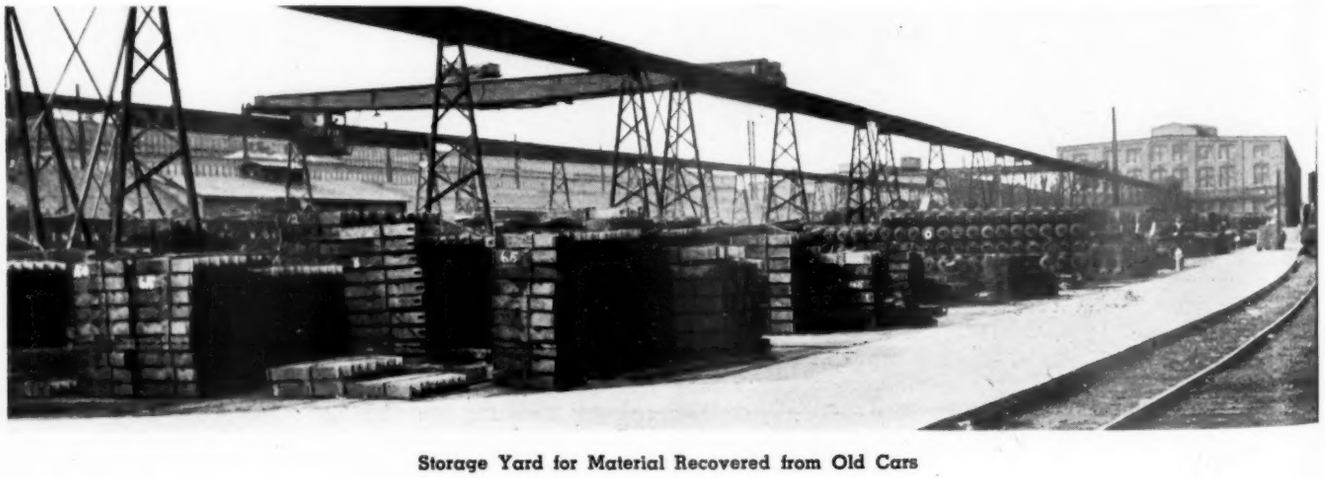
Cars loaded with scrap are weighed out for direct shipment on sale orders. Good wheels on axles are loaded for direct shipment to outside points while scrap wheels on axles are run to the end of one of the tracks where the wheels are removed in a press driven by a gasoline engine and are then loaded by an air hoist. Where cars are dismantled at outside points, the scrap is moved to Silvis where it is sorted and prepared for sale in the general scrap dock under three 10-ton Gantry cranes.

Largest Locomotive Dismantling Program

The program on old locomotives was begun this year and includes the sale of some locomotives, while the dismantling program is the largest undertaken by the road. The work is performed on two tracks adjacent to the general scrap dock and within reach of the three Gantry cranes operating over the scrap dock. Condemned locomotives are set on these tracks two at a time and completely reduced without moving them. Employees of the mechanical department equipped with torches strip off all attachments, remove lagging and motion work and separate the cab, boiler, cylinders and frames from the trucks. Store forces equipped with torches collect salvagable material, including flues, and reduce the scrap to the best grades for sale.

The number of cars and locomotives to be dismantled is determined each month and notices are issued in sufficient time so that all the work can be completed in the month stated. Statements of the equipment dismantled and of costs are prepared monthly by the accounting department and statements of the tonnage handled and the cost of handling the scrap are prepared monthly by the store department.

All told, approximately 85 men are engaged at Silvis in demolition and scrap handling work, of whom 40 are employed in general scrap handling, 10 are employed in dismantling and wrecking cars and 10 are employed on locomotives. Previous to the concentration of this work at Silvis the dismantling of cars was performed at division points by using a wrecking crane for setting off cars and loading up heavy material. Under this arrangement the cost averaged $2.10 per ton for the dismantling and $1.31 per ton for the additional work of handling scrap at Silvis, or a total of $3.41 per ton. Both



Storage Yard for Material Recovered from Old Cars

car dismantling and scrapping are now being done at Silvis at an average cost of $1.429 per ton, including the labor for dismantling, handling recovered material, cutting scrap and miscellaneous work, also local supervision, the cost of loading scrap, the cost of oxygen, acetylene, tools and lubrication, repairs to cranes, fuel, heating, light and power and switching charges required for a completely dismantled and processed production.

Cost of Car Dismantling in 1937

Labor for dismantling	$12,333.79
Handling good material	3,072.56
Cutting scrap	16,161.45
Miscellaneous labor	1,388.20
Supervision, local	3,114.67
Loading scrap	6,185.55
Oxygen and acetylene	15,377.48
Tools and lubricants	928.33
Running repairs to cranes, etc.	454.88
Fuel, light, heat, power, air, water	2,118.57
Switching charges	2,075.31
Total	$63,210.79
Weight	44,217 tons
Cost per ton	1.429

The locomotive dismantling is performed at an average cost of $55.32 per locomotive, including $34.58 per locomotive for labor. These figures are based on expenditures in October, 1938, when 15 locomotives were demolished. They include shop expense and all material and crane service for dismantling but exclude the cost of handling and preparing the scrap.

Cost of Dismantling Locomotives, October, 1938

Direct Labor—15 locomotives	$414.97
Shop Expense, 25 per cent	103.74
180 tanks of acetylene	237.60
1,300 lb. carbide	58.50
Crane labor	15.00
Total Expense	$829.81
Labor for dismantling per locomotive	$34.58
Total dismantling cost per locomotive	$55.32

Previously locomotives were dismantled at various points on the railroad where no crane service other than train service wrecking equipment was available and the cost of dismantling alone averaged $126 per locomotive.

As a result of the dismantling operations at Silvis and on line a large volume of material has been accumulated. This includes second hand side frames, couplers, springs, air reservoirs and devices from locomotives, and is principally stored under one of the cranes. The material is not repaired or otherwise reconditioned until required but is carried at scrap value in the inventory until requisitioned. It is then repaired and charged out at average prices.

Night Blindness

By Dr. J. F. Neumueller*

RECENT investigations indicate a close connection between night blindness—the inability of the eyes to see distinctly in dim illumination—and automobile accidents occurring at night. It has been asserted that night blindness was a contributory cause for many of 1936's 22,000 auto fatalities which occurred during hours of darkness when only 20 per cent of the total traffic was on the road. A recent study of the causes of automobile accidents carried out by Drs. J. B. Feldman and William Ezickson of Philadelphia in cooperation with the Pennsylvania State Police tends to confirm this assertion. Each of 75 drivers involved in 142 accidents was subjected to a night blindness test. Forty-eight per cent of the drivers showed night blindness, and 62 per cent of the night accidents happened to the night blind group.

Just what is night blindness? Everybody, of course, has experienced the sensation of temporary blindness upon entering a darkened theater from a brightly lighted lobby. At first, in the dark, nothing is seen, but as the eye adapts itself, objects become discernible. As time goes on, the objects become still clearer until definitely visible—provided the person is not afflicted with night blindness.

Persons in normal health quickly readjust their eyesight; those suffering from night blindness require a longer interval for readjustment before they can see in the dark. And it is during this time of readjustment that accidents may take place!

Night blindness may be a corollary to various diseased conditions, or it may be due simply to a vitamin A deficiency. Nutritional night blindness is sometimes quickly remedied by a diet of natural foods such as dairy products, green vegetables, carrots, etc., or intensive doses of vitamin A. There is at present no known cure for night blindness caused by certain organic diseases.

An accurate, scientific check on the extent of night blindness of those engaged in transportation work is an essential precaution for safety's sake. Engineers suffering from night blindness are obviously poor risks in railroad operation. Workers in railroad yards, unable to see normally at night, are exposed to many dangers easily avoided by persons enjoying normal night vision.

Night blindness tests are based upon the changes occurring in the eyes when exposed alternately to brilliant light and dim illumination. In the eyes is a substance called visual purple which is necessary for seeing. Severe exposure to glare bleaches out the visual purple and produces the temporary blindness that we experience when we look at blazing headlights at night.

Our bodies can restore the visual purple to normal through the agency of vitamin A. If we have enough of that vitamin in our system, the vision is soon brought back to normal. However, persons deficient in vitamin A, or suffering from certain diseases or their after-effects, cannot regenerate visual purple as fast as normal people. To that extent they are subject to night blindness and the possibility of accidents.

The diagnosis for night blindness may be conveniently made by several methods. A new test was made available recently which provides, perhaps the quickest and easiest method of determining night blindness. The test can be made in a few minutes, and the technique involved is exceptionally simple and easily learned. Practically anyone can learn to make this examination in a short time.

There are many practical applications of such a test beyond the field of safety precaution. Medical science has found ample proof of the relationship between vitamin A deficiency and certain pathological conditions involving various types of diseases. The night blindness test, in brief, aids also in the safeguarding of employee health and welfare.

It should be repeated once more that wherever a person is alternately exposed to glaring light and low illumination, or where his ability to see well at night involves his safety or the safety of others, his dark adaptation should be periodically checked. A safeguard of this nature will assist greatly in nearing complete safety in transportation.

* Director, Bureau of Visual Science American Optical Company.

Communications and Books . . .

The Railway Age cannot publish letters from readers who do not supply their names and addresses. Names of correspondents are not published, or disclosed even upon inquiry, unless the correspondent consents. But they must be given us as an evidence of good faith.

We Do Get Around!

PHILADELPHIA, PA.

TO THE EDITOR:

I thank you for forwarding the *Railway Age* to me in France and England during July, August, and September, my wife and I having returned to Philadelphia after a six weeks stay in each of these two countries. It may interest you to know what becomes of my copies of the *Railway Age* when I have finished with them.

The read *Railway Ages* are sent to M. Georges Decamps, a retired locomotive engineman and *chef de mecaniciens* (road foreman of engines) of the Nord railway, residing in Creil, (Oise), France. After reading, he gives them to M. Marcy, Professor of English language, of the Ecole Nationale Professionnelle (National Professional School), Creil. Professor Marcy uses them as syllabuses for teaching English, and also comments on articles of especial interest to the students. The school has an enrollment of 200 students learning to be foremen. The course is three years, the subjects: English, mathematics, technology, electricity, engines and mechanical drawing, and practice in handling tools, in fitting, forging, modeling, casting, copper smithing and boiler making. Finally, a few copies of the *Railway Age* are given to honor students and the remainder donated to the Public Library at Creil. This has been the procedure for many years. I met and formed a friendship with M. Decamps while serving in the A. E. F. during the World War, and have been sending him either the "Railway Mechanical Engineer" or the *Railway Age* since that time.

CLARENCE ROBERTS.

More Light on High-Speed Braking

MAHWAH, N. J.

TO THE EDITOR:

Considerable interest has been shown in the article published in the August 6 issue of the *Railway Age*, page 216, entitled "The Friction of Brake Shoes at High Speeds and High Pressures," which was a condensed abstract of Bulletin No. 301 of the University of Illinois Experiment Station. Since this problem is one of increasing importance, it may be helpful if we comment briefly in view of the work that is being done in our laboratories on the subject.

The results described follow the same general trend as the results obtained in our laboratories under similar conditions and we wish to compliment the author on the manner in which the records of the tests are presented in the bulletin.

There is, however, considerable question in our minds as to the value of the conclusions which, as stated in the article, are confined to the conditions under which these tests were made. The conditions were as follows:

a—12,500 lb. equivalent wheel load
b—Single brake conditions
c—Brake-shoe loads from 4,500 lb. to 20,000 lb.
d—Initial speeds of 60, 80 and 100 m.p.h.
e—Diamond "S" brake shoes, 13¾ in. long
f—33-in. multiple-wear rolled-steel wheel (O. 73 per cent carbon, manufactured July, 1930)

The part of the report containing the conclusions is quoted here to assist in following the discussion:

The following conclusions seem warranted by the test results. They are applicable only to the types of shoes and the kind of wheel tested.

1—If excessive wear and deterioration of brake shoes are to be avoided, no cast-iron brake shoe should be subjected to braking conditions which will require it to perform and dissipate more than 90,000 ft.-lb. of work per second.

2—The building up of the welded brake-shoe material on the wheel tread may be avoided by limiting the braking conditions to combinations of pressure and speed such that the work-rate performance of the shoe is kept below 70,000 ft.-lb. per second.

3—Shoe pressures of 20,000 lb. combined with high speeds cracked the wheel tread at a very rapid rate, and the rate of performing work on the wheel should be kept below 125,000 ft.-lb. per second in order to avoid this type of failure.

4—Under the conditions of shoe pressure and speed prevailing in these tests the heavy shoes of pattern C-51 are more economical than those of the lighter pattern C-40 and are preferable, unless the service conditions are such as to make minimum stopping distance of paramount importance.

5—The chilled-end shoes were not superior to the plain-end shoes when tested at high speeds and high pressures.

We have found that brake shoes properly designed for the service will perform satisfactorily at work rates far in excess of those recommended as limits in conclusions Nos. 1 and 2. We find it possible, with a properly designed shoe, to dissipate energy at rates exceeding 200,000 ft.-lb. per second per shoe with a wear rate of approximately one-fifth that found with the shoes described in the bulletin and with a corresponding reduction in the smear of brake-shoe metal on the wheel tread.

Conclusion No. 3 must be broadly interpreted because of the many types of rolled-steel wheels that might be recommended with their respective ranges of chemical analysis and heat treatment. There does not seem to be a well-founded reason for the restriction to 125,000 ft.-lb. of work per second as implied by this conclusion since higher rates have been employed in railway braking for many years whenever required by the necessity of some individual stop.

It must be borne in mind that the author is judging from laboratory data in which there is a frequent recurrence of braking rates of considerable magnitude which is entirely different from the conditions met in service where the maximum rates possible in the braking system are seldom used. The mere fact that such rates are possible does not mean that they are the rule. For instance, in reading the bulletin one observes that the first check appeared after 294 stops, which might be termed emergency stops from moderate to severe conditions, and the second check resulted after the 354th stop. When you take into consideration that this wheel had not rolled upon the rail and that it was necessary to use an abrasive shoe after the more severe stops to clean the smeared brake-shoe metal from the wheel tread, one is drawn to the conclusion that the durability of this particular wheel should not be too severely criticized. If the wheel had been under a modern high-speed passenger train, it is very unlikely that it would have developed a check from braking and almost certainly would not have checked to the extent of being unsafe.

Our large brake-shoe testing machine has been used on several occasions by individual railroads for the purpose of investigating certain types of wheels for the effects of severe braking. During these tests the rate of work performed on the wheels generally exceeded 400,000 ft.-lb. per second and were usually made as a series of slow-downs from 110 miles an hour to 60 miles an hour, repeated in rapid succession, with the final slow-down continuing with the brakes applied to the stop. These tests did not produce serious checking even though the tread was sprayed with water after the stops. It must be noted, however, that these wheels were of comparatively recent manufacture and had been manufactured with the knowledge that they would be used in high-speed service.

We are in general agreement with statements in conclusions Nos. 4 and 5. We recommend an unchilled type of shoe for ultra high-speed service where the shoes may at times be subjected to high speeds and heavy pressures.

It is extremely difficult to draw broad conclusions based on

laboratory results alone due to the wide variations in service conditions that must be met by brake shoes. Our practice has been to investigate a new design in the laboratory under various conditions of wheel load, shoe pressure and speed, paying particular attention to instantaneous friction characteristics with clasp brakes when the shoes will be required to operate at high speeds and pressures. Laboratory findings are then checked under actual service conditions before being accepted as reliable.

R. P. POGUE,
Chief Engineer, The American Brake Shoe & Foundry Company

It Pays to Advertise

NEW YORK CITY.

TO THE EDITOR:

Next year promises to be the biggest domestic travel year in a decade. America is "on the move" and with recurrent troubles abroad, in addition to two World's Fairs in this country, the American railroads stand to handle the heaviest travel in the current decade.

Rail advertising expenditures in 1937 totaled $11,715,000, this being the largest since 1931. Although 1938 will show smaller appropriations in the aggregate, several major roads have continued courageously recounting their attractions to the public. I have made analyses which show that the roads with the most comprehensive promotion programs show the best returns in revenue. The relationship is so conclusive that one can clearly see the return on the promotion-cost in the shape of better-than-average earnings. Hence, the lines which did not permit fear or limitations to interrupt their traffic-development campaign are now better fixed financially, with more money with which to meet fixed charges, through added revenues thus earned.

This is true, either seasonally, or for the year to date, or for virtually any other period. The facts seem to coincide for any period surveyed, but to base it upon a full calendar year, take 1937.

Road *A*, in one region, spent the largest sum for advertising, both in gross and in ratio to its passenger revenues. It also had the most publicity (news and pictures). Its passenger revenues showed the second largest percentage increase of any road in its territory. (The leading road in this respect was also one of the biggest advertisers).

Roads *A*, *B* and *C* in another region ranked 1, 2 and 3 in gross expenditures on promotion; in the percentage ratio of this to passenger revenues, and in the volume of news publicity obtained. Their respective passenger increase, in percentage terms, was in exactly the same rank, Road *A* showing the biggest gain; *B*, the second, and *C*, a poor third, just as it was a poor third in its promotion expenditures.

Elsewhere, regional figures show three leading roads ranking 1, 2 and 3 in percentage of advertising expenditures to total passenger revenues. Road *A*, having the highest percentage showed the best increase in revenues. Road *B* was second in both respects; Road *C* was third. Similar studies could be offered for regional groups, or specific competitive roads in almost every section. The results are not amazing, to one who knows that good promotion produces good results, but they should be illuminating to railroads which have thought it economical or prudent to curtail on promotion expenditures. The roads which do this make the poorest showings, almost without exception.

With this as a spur, it is to be hoped that all roads will be encouraged to make every effort to capture the heavy travel of 1939, by making it the biggest railroad travel-promotion year in the '30's. Passenger travel *can* be recaptured, if the rails go after it in an intensive manner. I am told that one air-line bought more space in a New York newspaper in 1937 than all Western railroads combined. Such a situation should not be permitted to recur. The rails have much to offer the public, but the only way the public can be apprised of this fact is by money spent to publicize the virtues of railroad travel. Other industries do so; why should the rails not do the same, when the results prove this to be productive of increased revenues?

Then, too, the passenger men can proudly claim that their department contributes its share to net earnings, rather than operating at deficit (if the I. C. C. formula of computing the passenger operating ratio is not too erroneous, as some railroad men aver to be the case).

FRANKLIN SNOW.

New Books . . .

The World Coal-Mining Industry, Volume I, 258 pages, Volume II, 372 pages, 6¼ in. by 9½ in. Bound in paper. Published by P. S. King & Son, Ltd., Westminster, London S.W.1. Distributed in the United States by the International Labour Office, Washington, D. C. Price $2.00 each.

This two-volume study which analyzes coal mining activities in all of the major industrial countries of the world, both from economic and social standpoints, is issued by the International Labour Office, a body formed to study problems of industry, commerce and labor on an international scope, under the sponsorship of the League of Nations. In its original form, this study was prepared and distributed in proof form as a report intended to serve as a basis of discussion for the technical tri-partite conference on the coal mining industry held in Geneva, Switzerland, in May, 1938 and in the volumes now published additional changes and new interpretations brought about by the discussions at the conference have been included.

Volume I deals with the entire field of coal mining and includes an historical survey of the coal problem, a discussion of the rank of coal in world economy as a fuel and detailed analyses of markets, future supply and the organization of producers and distributors in the various countries. Volume II, which covers the social aspects of the industry, deals with labor, supply, wages and earnings, unemployment, etc. A particularly significant conclusion in Volume I is that coal represents a smaller part of total energy requirements in the United States than in the world at large and that in this country coal has been losing more ground to oil, gas and hydro-electric power than in any other.

The Big Four, by Oscar Lewis. 418 pages. 9½ in. by 6½ in. Bound in cloth. Published by Alfred A. Knopf, New York and London. Price $4.50.

First, it should be noted that "The Big Four" has been adjudged one of the best biographies of the year and has received the plaudits of literary critics for its general readability, and fineness of research technique. As the collective biography of the four backers of the pioneer Central Pacific—Huntington, Stanford, Hopkins, and Crocker,—it deserves careful reading, for these men became leaders in the Western transportation field of their day and Huntington, in addition, extended his control from coast to coast to become a key figure in railroad history. Each of the men is treated in a separate section, each one of which comprises a small, complete biography.

The history of the Central Pacific and the later Southern Pacific is found scattered through these biographies and in two chapters entitled "Iron Horse" and "Monopoly." The author has unearthed a vast deal of hitherto unpublished material about the first transcontinental, later financial manipulations and the great political power of the Southern Pacific machine. Like the novelist, Norris, in his "Octupus," Mr. Lewis cracks down on the "Espee" group for their shortcomings of the '80's and '90's; unlike the novelist, he indicates genuine admiration for their skill and tenacity in the building of the Central Pacific. Thus, while the grim details of the "Battle of Mussel Slough" are raked up for a spectacular narrative piece, he complements it with tales of the praiseworthy exploits of big Construction Boss Charlie Crocker, who said "I built the Central Pacific"—and let it go at that.

One of the author's finest achievements is the unearthing of Theodore Judah from obscurity. Although he was prime mover of the very idea of a trans-continental line and the true founder of the Central Pacific, this wholly-admirable figure has been quite neglected by both the beneficiaries of his fanaticism and the historical commentators. Mr. Lewis' 48-page tribute to him is a real contribution of research to the field.

The work is well illustrated by contemporary photographs

that must have required considerable digging into libraries and obscure files. The author's own excellent narrative is supplemented generously by quotations from early newspaper accounts.

The Interstate Commerce Commission, Part Four, by I. L. Sharfman. 550 pages. 9½ in. by 6 in. Bound in cloth. Published by The Commonwealth Fund, New York. Price $4.50.

Publication of this volume completes an extensive five-volume study of the law and procedure upon which the activities of the Interstate Commerce Commission are based. Part I, published late in 1931, traced the development of legislation underlying the commission's powers. Part II, published in the spring of 1932, subtitled "The Scope of the Commission's Jurisdiction," focussed attention on the constant expansion of the sphere of action exercised by that body. Part III, which dealt with the character of the commission's activities, was published in two volumes, released in the fall of 1935 and of 1936, respectively. The volume here considered is, therefore, the final step in a monumental job of scholarship, and must be interpreted in the light of its predecessor volumes.

The three sections of this volume, combined under the subtitle "The Commission's Organization and Procedure," comprise the most severely "practical" portion of the author's entire work. While former volumes cover historical background and discuss the theories underlying the commission's powers and methods, this last volume is cast in the mould of the reference work and might well be titled "A Guide to the I. C. C." Detailed and thoroughly documented it is, to be sure, but, nevertheless, it does concern itself almost exclusively with such factual presentations as the make-up of each bureau of the commission; the tenure of office, political affiliations and formal training of each of the 44 commissioners that have held office since 1887; salaries and duties of the commissioners; the growth of the commission's personnel; its annual expenditures. Each bureau is discussed in detail as well, with special attention paid to the definition of its province of operation and its contribution to the sum-total of commission precedent. The Bureau of Motor Carriers, in view of its recent origin and the difficulties which it faces in the near future, is treated at rather great length; this section of the book is particularly valuable and makes available a mass of data hitherto unpublished.

The various procedures are also treated in detail—formal and informal complaints, shortened procedures, rehearings, fourth section cases, etc. In this connection, an excellent section on statutory provisions is offered which treats individually of the authority of the commission to initiate proceedings, to schedule hearings, to require oral testimony and documentary evidence and other powers, and explains the nature and extent of penalties for violations of the law.

The extent of Prof. Sharfman's studies has enabled him to make many striking observations about present and past commissioners founded on full evidence. For example, he has found that, despite political pressure, only 11 commissioners, or one-quarter of the aggregate membership since 1887, were not reappointed on completion of their terms of office; the average length of tenure of commissioners, to the end of 1936, has been approximately 12 years; 34 of the 44 members have been lawyers, but most of these possessed special experience in the law or public service enhancing their worth. Of the lawyers, three have been connected with railroad corporations at one time, while of the 13 non-lawyers, five have had intimate contact with the railroad industry and one held high office in a railroad labor union.

The second section of the volume handles the timely topic of the pressure of duties borne by the commission and its staff. The routine of duties has been rendered especially crushing by duties dictated by the Motor Carrier Act, and Prof. Sharfman is most convincing in his contention that the members are seriously overburdened. He discusses briefly various expedients for relief that have already been effected, such as enlargement of the commission and divisional organization, but suggests that resort may have to be made to one or another of the proposals afloat for actual reorganization. The latter he analyzes in turn, with special attention to ex-Co-ordinator Eastman's plan of enlargement and board control.

A 46-page conclusion appears at the close of the volume to tie-up the vast detail of the work and to formulate general principles. Here the significance of the I. C. C. as the oldest federal administrative, semi-judicial agency is brought out and its influence on political theory outlined. The author makes no claim that the commission's history has been smooth; he insists that its procedures and powers have been evolved "by a prolonged process of trial and error." Again he makes no attempt to set forth any all-time precedents and theories established by the commission; rather, as he points out, "the most significant fruits of the commission's activity are thus reflected in the great stream of determinations of relatively limited scope which issue from day to day in response to shipper complaints and carrier applications."

The volume also contains a complete table of law and commission cases, cited both for this volume and the entire work, and single-volume and consolidated indices.

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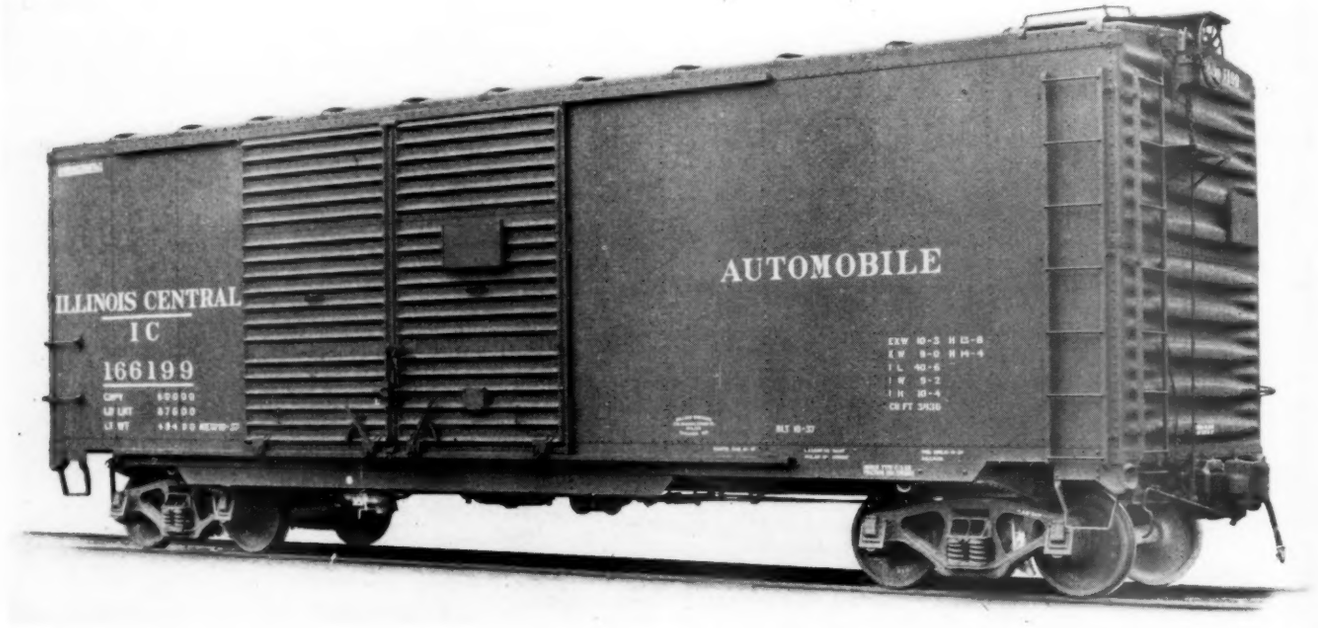

Steel Automobile Box Car of 40 Tons Capacity, Having a Light Weight of 48,400 Lb., Built for the Illinois Central by the Pullman-Standard Car Manufacturing Company

NEWS

Ninety Years of Loco. Building

Citizens of Schenectady stage an enthusiastic celebration, honoring Alco

The people of Schenectady, under the sponsorship of the Chamber of Commerce of that city, took occasion on December 13 to express deep appreciation and obligation to the American Locomotive Company, because of what its Schenectady plant has meant to that city since it was established in 1848, ninety years ago. The commemorative exercises made so great an appeal that the sponsors were embarrassed at the response. At four o'clock in the afternoon a large crowd witnessed the presentation of a bronze plaque at the works commemorating the establishment of the locomotive industry in Schenectady. The dinner in the evening, at first scheduled for the Mohawk Golf Club, grew to such proportions that it was necessary to transfer it to the Van Curler Hotel, and even that proved inadequate, well over 500 guests causing an overflow from the main dining room.

Laurence G. Magner, president of the Schenectady Chamber of Commerce, acted as toastmaster. Greetings were presented by the mayor of Schenectady, Robert W. Baxter, and also the speaker of the New York State Assembly, Oswald D. Heck. The latter stressed the fundamental importance of greater co-operation on the part of government toward industry, if this country is again to become prosperous.

A unique feature of the commemorative exercises was the presentation of two prizes for the best locomotive models made by residents of the city. Charles A. Harrell, city manager, acted as chairman of the committee of judges. There were 25 entries in the contest and the awards were made on the basis that the models must represent accurately something to be made or actually existing. The first prize was awarded to Lester Bowman and the second to Charles W. Lester. Mr. Harrell emphasized the fact that while the influence of an industry in a community is important from the standpoint of payrolls, employment and purchasing power, the spiritual and social blessings are even more important. The Schenectady Works measures up fully to these requirements.

Mills Ten Eyck, president of the Schenectady Savings Bank, and recently elected a councilman of the city, made an address on "Appreciation for What the Locomotive Industry Has Meant to Schenectady." When the plant was established in 1848 the population of that city was 6,500 and four railroads converged at that point. The citizens raised a considerable fund and persuaded Norris Brothers of Philadelphia, to supply additional capital and to operate the plant. The venture was not as successful as had been expected and in 1851 it was sold to a group headed by John Ellis, the name of the company being changed to Schenectady Locomotive Works. Since that time locomotives carrying Schenectady on the name plate, have gone to all quarters of the globe, and have greatly enhanced the reputation of Schenectady. Meanwhile, many other promising industries have been established, but have failed and been forgotten, the locomotive works going on to larger and larger accomplishments.

President William C. Dickerman of the American Locomotive Company, in responding to the greetings and well wishes, spoke on "Ninety Years of Locomotive Building." The national wealth of the United States in 1850 was about seven billion dollars. The census of 1930 showed it to be 329 billion dollars. All of this progress has been paralleled and much of it made possible by the development of our railroads and the locomotive. Mr. Dickerman pointed out further that, without the railroads, we would not have had the United States as we know it today. As late as 1843 we find record in the famous Senate debates on the Oregon Bill of Senator McDuffie of South Carolina, ridiculing the idea of ever admitting Oregon to the union, because it would require

(*Continued on page 897*)

Southeastern Roads Announce Reduced Holiday Fares

Carriers in Southeastern territory, whose basic coach fares stand at two cents per mile, have followed the higher-rated Trunk Line and New England roads in granting special reductions on round-trip tickets over the holiday period. Effective December 10 and continuing until January 1, with final return-to-origin limit set at January 10, round-trip coach tickets are being sold at the one-way-and-a-half rate, or 1.5 cents per mile in each direction, which is a 25 per cent reduction; first-class round-trip tickets can be purchased at approximately 2.25 cents per mile in each direction, as compared with the present three-cent rate one way.

Western Pacific Revamp Opposed

Neither the stockholders nor the creditors admire I.C.C. plan—Former threatens suit

The Western Pacific has asked the Interstate Commerce Commission to modify the final plan of reorganization for that road promulgated by the commission on October 10. At the same time the A. C. James Company, the Irving Trust Company, and the institutional bondholders' committee have also filed briefs asking for a modification of the commission's final plan.

In its petition the railroad company asserted that the plan approved by the commission was unjust, inequitable and failed to afford due recognition to the rights of stockholders. The commission's plan, the petition stated, discriminates unfairly in favor of certain creditors and fails to conform to the requirements of law regarding the participation of the various classes of creditors and stockholders.

"The basic injustice," the petition goes on to say, "lies in the proposal of the commission to limit the capitalization of the reorganized company to $93,726,517. A strikingly inequitable feature of the plan approved by the commission is in the use of no par value stock of the reorganized company as an elastic currency for adjusting creditor claims."

The plan fails to give any recognition to the rights of the debtor's unsecured creditors and stockholders, the petition said, although the valuation placed by the commission upon the common stock of the reorganized company in fixing capitalization at $93,726,517 demonstrates mathematically the existence of substantial equity. The petition asserted that the debtor was confident that such an evaluation would be held confiscatory by the courts.

The petition went on to say that "Unless the commission will modify the proposed plan so as to give substantial recognition to the true value of the rehabilitated Western Pacific Railroad, the inevitable alternative is long litigation which ought to be avoided in the interest of the railroad industry and those unfortunate creditors and stockholders who believe capital interested in the property will be given a square deal."

The debtor company asked the commission to issue an order modifying the plan so as to give due recognition to the rights of the debtor's unsecured creditors and

(*Continued on page 896*)

Roads Could Spend Billion Each Year

Fletcher sees need for such outlays to rehabilitate railway properties

Declaring that the railroads in the next five years could profitably expend one billion dollars annually for new freight cars, and locomotives, repair of existing equipment and improvement in track and facilities, R. V. Fletcher, vice-president and general counsel of the Association of American Railroads, on December 12, discussed before the Senate Finance Committee the advisability of amending the tax laws so as to permit such expenditures being taken into consideration in computing taxes to be paid by the railroads.

Such an expenditure for rehabilitation purposes, Judge Fletcher said in appearing before a sub-committee which is considering the question of profit-sharing by industry and tax incentive would be in the public interest for the reason that it not only would bring about increased efficiency in railroad operation but would provide employment for approximately half a million employees in industry as well as increase somewhat the number of railroad employees.

"There is a need today," said Judge Fletcher, "for the expenditure of a large amount of money for rehabilitation of the railroads. For the purchase of new cars and locomotives, repair of present equipment; new rail, ties and ballast, and other improvements, I think it is safe to say that the railroads could spend one billion dollars annually. In order to make this possible there is a need for the improvement of railroad credit so that the rail lines can tap sources of credit which are now not open to them. The placing in effect of such a rehabilitation program would do much to stimulate industrial activity in this country."

For the rehabilitation of equipment and track alone Judge Fletcher said, that according to conservative estimates, at least $600,000,000 could be spent annually in the next five years and that the amount might total $775,000,000.

Judge Fletcher told the committee that to reduce to six per cent the number of freight cars which are in need of repair, the cost would be $53,614,000. He estimated that the railroads should install 100,000 new freight cars annually in the next five years. For the seven year period—1923 to 1929—the railroads built or purchased 114,832 new freight cars annually. From 1930 to 1935 they bought only 21,000 annually. He estimated that the acquisition of 100,000 new freight cars each year for the next five years would cost $300,000,000.

Judge Fletcher also said that to reduce to ten per cent the number of locomotives in need of repair would cost approximately $25,000,000 or $7,000 per locomotive. He also said the railroads should install 2,000 new locomotives annually in the coming five year period the cost of which would be $200,000,000. In the seven years from 1923 to 1929 inclusive, the number of new locomotives acquired by the railroads was 2,075 annually. From 1930 to 1935 inclusive he said the railroads only purchased 174 locomotives annually, although, due to a stimulation in business early in 1937, they added 373 locomotives in that year.

The railroads in the past eight years, Judge Fletcher said, have averaged approximately one million tons of new rail annually, which is about half the amount normally needed. To meet their needs of approximately 2,000,000 tons each year, he added, would cost about $100,000,000. He also said that the railroads could well spend $90,000,000 annually in the next five years for cross ties, and about $10,000,000 annually for ballast.

The A. A. R. general counsel referred to the development that has taken place in recent years in light-weight steel and said that if the money was available, there might be an advantage to the railroads in discarding the types of cars now in general use and replacing them with lighter weight cars. Such a change, he said, would lighten the load of equipment and bring about a reduction of operating expenses.

Taxes, Judge Fletcher said, place a heavy burden on the railroads especially those imposed by the states. In some of the states,

(*Continued on page 896*)

How a Government Railway Views Truck Competition

Strong evidence that state-owned railroad systems pull no punches in suppressing dangerous highway competition is given in a general survey by the general manager of the Nigerian Government Railway & Colliery, appearing in the annual report for the year ended March 31, 1938: "Road transport legislation has two aspects: the ethical, which embraces rates of pay, hours of work, safety and rates to be charged to the public; and the expedient, which embraces quantitative control and limitation, to safeguard the economics of any necessary public utility and to protect road operators *inter se* from the effects of unbridled and wasteful competition.

"The following is submitted as axiomatic:—

'If it is established that a public utility is necessary in the public interest and its adequacy, efficiency or continuation is imperiled by any factor (*inter alia* unbridled competition), then state intervention in some form or another is necessary. The measure of that intervention is economic expediency unrelated to ethics. There is nothing revolutionary in subsidy or subvention from state revenue and if that undertaking is state-owned, such subvention is merely diversion of the fruits of taxation from one vote to another. If any such subvention can be avoided by restrictive legislation, it is the more economic course than diversion of state revenue (possibly from more deserving objects)'."

I. C. C. Ties Strings on Truck Permits

Railroad truck line may divert traffic from rails, but not from other truckers

"Hang your clothes on a hickory limb, but don't go near the water," was the injunction of the mother who wished to appear to give her daughter authority to go swimming, without actually doing so. And a similar stratagem seems to be the settled policy now of the Interstate Commerce Commission, Division 5, in dealing with railroad applications to enter trucking. Specifically, Division 5 has granted, on "don't go near the water" conditions, the application of the Texas & Pacific Motor Transport Company, affiliate of the Texas & Pacific, for a common-carrier truck certificate covering specified routes between Shreveport, La., and New Orleans. The conditions, similar to those imposed in a recent Kansas City Southern Transport Company case, are as follows:

(1) The service to be performed by applicant shall be limited to service, which is auxiliary to, or supplemental of, rail service of the railway;

(2) Applicant shall not serve, or interchange traffic at, any point not a station on a rail line of the railway;

(3) Shipments transported by applicant shall be limited to those which it received from or delivers to the railway under a through bill of lading covering, in addition to movement by applicant, a prior or subsequent movement by rail.

(4) All contractual arrangements between applicant and the railway shall be reported to us and shall be subject to revision, if and as we find it to be necessary in order that such arrangements shall be fair and equitable to the parties;

(5) Such further specific conditions as we, in the future may find it necessary to impose in order to restrict applicant's operation to service, which is auxiliary to, or supplemental of, rail service.

The dissent of Commissioner Rogers was noted while Commissioner Eastman, concurring, called attention to his comment on the above-mentioned K. C. S. decision, which "is equally applicable here." The former co-ordinator was thus objecting to the third condition because of his previously-expressed fear that such a limitation "may stand in the way of the development of maximum efficiency in the co-ordinated service."

The Northern Pacific Transport Company, subsidiary of the Northern Pacific, has been authorized by Division 5 to purchase the operating rights of William and Sarah T. Fitzhugh, doing business as Fitzhugh & Thompson. The route to be purchased includes the carrying of passengers and general commodities in Montana, generally between Sidney and Kalispell, via Whitehall and Butte, and over numerous branch routes including one between Butte and Alder, serving the intermediate points of Whitehall and Waterloo. The purchase price was $10,000. The authority was granted with the provision that it shall be subject to such limitations or restrictions as the commission may hereafter find it necessary to impose in order to insure that the service shall be auxiliary or supplementary to the train service of the road

and shall not unduly restrain competition.

In two other decisions by Division 5, the Frisco Transportation Company, subsidiary of the St. Louis-San Francisco, was authorized, subject to the above-mentioned condition, to purchase the operating rights and property of Joseph D. Cooper, doing business as the Southwest Truck Line between Carthage, Mo., and Joplin, 18 miles; and the operating rights and property of John Hamm, doing business as the Southwest Freight Line, between Miami, Okla., and Joplin, Mo., 45 miles.

In another Division 5 decision the Southern Pacific Transport Company, subsidiary of the Southern Pacific, has been given authority to purchase the operating rights and property of Lucian Pilarczyk, doing business as L. P. Truck Line and J. T. McCauley, doing business as McCauley Transfer Company, subject to the above-stated condition. The former route involves trucking operations between San Antonio, Tex., and Karnes City, via Floresville, 56 miles; and the latter covers the territory between Austin, Tex., and Llano, via Leander and Burnet, and between Burnet and Marble Falls, 100 miles. Commissioner Rogers dissented in all four cases, but gave no reasons for so doing.

Joint Board No. 145, composed of William P. O'Donnell of Minnesota, has recommended in a proposed report that the commission grant common-carrier bus certificates to the Northland Greyhound Lines, affiliate of the Great Northern, for operations over specified routes between Crookston, Minn., and Detroit Lakes, and between Motley and Little Falls.

Status of R. F. C. Rail Loans

The financial statement of the Reconstruction Finance Corporation as of November 30, showed loans to railroads (including receivers) of $613,425,739 and repayments of $185,384,362.

Advertising Agents to Meet January 20-21

The American Association of Railway Advertising Agents will hold its annual meeting January 20 and 21 in the Benjamin Franklin hotel, Philadelphia, Pa.

Roosevelt Still Hopes to Build St. Lawrence Seaway

President Roosevelt on December 9 told a delegation representing the National Seaway Council that he hoped for an early agreement between Canada and the United States for the development of the proposed St. Lawrence waterway.

B. & M. Magazine Issues Special Flood and Hurricane Edition

The Fall issue of the Boston & Maine Employees Magazine devotes some 22 pages of its contents to special articles and pictures on the experiences of the railroad in the New England flood and hurricane of last September. Among the special articles are reprints of newspaper editorials, a description of the experiences of the maintenance department by John J. Kiley, office assistant to A. H. Morrill, chief engineer; a story of operating difficulties by John E. Buck, chief clerk to J. W. Smith, vice-president and general manager, and shorter pieces by the editor. The special issue also contains a great many photographs taken on the spot showing washed-out tracks, rivers where bridges used to be, and general "shots" of reconstruction jobs.

Rail Executive Thinks Lower Rates Might Help Roads!

Lower freight rates, accompanied by reduced expenses and increased traffic, were suggested as a formula for the solution of railroad financial difficulties by G. P. McNear, Jr., President of the Toledo, Peoria & Western, who appeared on December 14 before the Senate Finance Committee's sub-committee investigating profit-sharing and incentive taxation. Mr. McNear said that his road, a dividend and bonus payer, did not join in the Ex Parte 123 rate-increase application because it believed the proposed increases would divert traffic to competing agencies. The T. P. & W., Mr. McNear added, has never borrowed money from the government, and he attributes its relatively favorable financial showing to insistence upon "running our own business." It seemed to him that if the above-mentioned formula were followed "we would have just as good or better profits and more employment." Among things which the government might do Mr. McNear listed more liberal tax allowances for depreciation of property and speedier reorganization procedures. He also agreed that it would be helpful if the railroads were permitted to buy their own bonds at a discount without being subject to taxation on the paper profits; but he protested that the railroads are now forced to pay higher social security taxes than other industries.

I. C. C. to Investigate North Dakota Rates

The Interstate Commerce Commission has instituted, on its own motion, an investigation to determine whether or not the North Dakota intrastate rates on grain, grain products, seeds and animals and their products are in line with increased charges ordered by the commission in Ex Parte 123. All railroads serving North Dakota are made respondents in the case, but no date has been set for a hearing.

Publicity for Golden Gate Fair

Publicity to encourage travel to the Pacific Coast during the Golden Gate International Exposition to be held on "Treasure Island" this summer, is being undertaken by the railroads. One of the first pieces of literature will be a 24-page booklet describing the island in word and picture. It will be distributed by 50 railroads west of the Mississippi river and 15 in the east. The first run will be 1,000,000 copies. The booklet will be distributed on trains, in stations and through the mails. Publicity is also being accomplished by the railroads through folders, moving pictures and dining car menus.

Farewell Parties on Diner at Train Time

Because of the popularity of farewell dinners on the "Florida Arrow" of the Pennsylvania prior to departure at Chicago last year, the practice will be resumed this year. The dining car will be opened at 7 p. m. each evening for dinner so that passengers leaving Chicago for southern resort centers may dine, and if they choose, have farewell dinner parties with friends. A period of two hours permits a leisurely meal before departure at 9:00 p. m.

Automatic Stoker Case is Again Postponed

Upon the recommendation of its chief counsel the Interstate Commerce Commission has postponed the effective date of its automatic stoker order from December 15 to February 1, 1939. The action was taken because of a suit now pending in the United States District Court for the Northern District of Ohio in which the carriers are attempting to have the commission's order set aside.

Air-Conditioning Fellowship Established

The Mellon Institute, Pittsburgh, Pa., through its director, Dr. Edward R. Weidlein, announces the establishment of an industrial fellowship by the American Air Filter Company, Inc., of Louisville, Ky. The fellowship will investigate broadly materials used in the construction of filters for air-conditioning systems, and in its work will have the direct co-operation of specialists on the staff of the Multiple Industrial Fellowship on air hygiene in operation in the Institute.

Another Six-Months Reprieve for Arch-Bar Trucks

Freight cars equipped with arch-bar trucks will be accepted in interchange at least until July 1, 1939, as a result of a recent decision of the Association of American Railroads board of directors to extend the deadline another six months. Similar action was taken last July when the deadline was moved up to January 1, 1939. At that time J. J. Pelley, president of the A. A. R., said that only about two per cent of the total railroad-owned cars, which are regarded as suitable for service or worth repairing, were equipped with arch-bar trucks.

Retirement and Unemployment Accounts

The Daily Statement of the United States Treasury for December 10 includes the usual monthly tabulations showing the November 30 status of the Social Security, Railroad Retirement and Railroad Unemployment Insurance accounts. As of the close of last month the pension taxes on carriers and their employees had aggregated $203,728,150, while benefit payments had amounted to $122,275,894.

Meanwhile the Railroad Retirement Board had spent $5,570,818 to administer the retirement law and $55,955 in connection with the unemployment insurance act.

Transportation of Pulverized Coal

The Interstate Commerce Commission, by Commissioner McManamy, has issued a new order in No. 3666, In the Matter of Regulations for Transportation of Explosives and Other Dangerous Articles, superseding and amending paragraph 201-(m) of the freight regulations, order of May 12, 1930, to read as follows (*prohibited articles for transportation*):

"*Ground bituminous coal, sea coal, coal facings,* 90 per cent of which will pass through a 100-mesh sieve, unless stored for at least six days after grinding, or unless shipped in tight metal tank cars, or in tight metal containers on container cars, or in permanently covered metal hopper cars, or in other tight metal containers. *Ground bituminous coal* which has been dried by heating before grinding unless packed in air-tight metal containers."

Club Meetings

The Car Foremen's Association of Chicago will hold its next meeting on January 9 at the La Salle Hotel, Chicago, Ill. The members will discuss the new A. A. R. Rules of Interchange.

The next meeting of the Toronto Railway Club will be held on January 23 at 7:45 p. m. at the Royal York hotel, Toronto, Ont. I. I. Sylvester, special engineer, Canadian National, will present a paper entitled "The Application of the Diesel Locomotive In Switching Service." Election of directors and officers for 1939 will also take place.

The Car Foremen's Association of Omaha, Council Bluffs and South Omaha Interchange will hold its next meeting at 2 p. m. on January 12 at Union Pacific headquarters in Council Bluffs, Ia. F. M. Rezner will present a paper on "Rule 32."

Expect Committee-of-Six Report Before End of Year

President Roosevelt's railroad committee-of-six scheduled no meetings for this week but planned to get together again on December 20 in Washington, D. C. It is generally expected that the recommendations of the group, consisting of three railway executives and three labor leaders, will be in the hands of the President before the end of the month.

Chairman Splawn of the Interstate Commerce Commission was at the White House on December 13 for what was described as a brief call involving no discussion of railroad legislation. Meanwhile a group of railway executives met on the same day with representatives of the National Industrial Traffic League for a discussion of proposed legislation. This meeting was held at the offices of the Association of American Railroads in Washington.

November Gross Just Tops Figure for November, 1937

Preliminary reports from 92 Class I railroads, representing 82.4 per cent of the total operating revenues, made public December 14 by the Association of American Railroads, show that those roads, in November, had estimated operating revenues amounting to $262,483,780 compared with $262,310,277 in the same month of 1937 and $325,620,958 in the same month of 1930. This November gross was 0.1 per cent above those for November, 1937, and 19.4 per cent below November, 1930.

Freight revenues of the 92 roads in November amounted to $215,005,472 compared with $211,419,803 in November, 1937, and $254,345,048 in November, 1930—1.7 per cent above the former and 15.5 per cent below the same month in 1930. Passenger revenues totaled $25,836,790 compared with $28,537,532 in November, 1937, and $41,-451,632 in November 1930—9.5 per cent below the former and 37.7 per cent below the same month in 1930.

Cornell Men Look Again to the Railroad Business

Renascence of interest in railroading by faculty and students of the College of Engineering of Cornell University, Ithaca, N. Y., is evidenced by a program of model railroad construction, inspection trips, lectures and motion pictures, in addition to special courses in the School of Civil Engineering, which has recently been undertaken. More than 100 undergraduates are actively participating in these activities of which about 60 students are taking special courses in the School of Civil Engineering. The model railroad, which is under construction in the basement of the residence of Dean S. C. Hollister of the College of Engineering, called the "Cornell & Cayuga," occupies 700 sq. ft. of table space and is now laying out the first section of a projected 1200-ft. network of 0-gage track. Rolling stock at present consists of 3 locomotives and 12 cars built by the students.

The Cornell railroad enthusiasts' group recently organized a student-faculty inspection tour of the Lehigh Valley shops at Sayre, Pa., and plans are under way for a trip to Binghamton, N. Y., to inspect the facilities of the Lackawanna, the Delaware & Hudson and the Erie. The club also holds bi-weekly meetings to hear lectures by railroad men, and to observe motion pictures of actual railroad operation. It is reported that, in addition to these extra-curricular activities, regular courses in various phases of railroad transportation, such as route surveying, maintenance of way, operation and management, are gaining real popularity this year among engineering students at the university.

Cotton Belt to Oppose K. C. S.-L. & A. Merger

The trustee of the St. Louis-Southwestern was authorized by the federal district court on December 13, to intervene in proceedings before the Interstate Commerce Commission and oppose the acquisition of the Louisiana & Arkansas by the Kansas City Southern with a view to bringing about certain restrictions. In seeking authority to intervene, the Cotton Belt told the court that the application of the K. C. S. to the I. C. C. does not contemplate an unrestricted maintenance of present through traffic routes with other carriers and if such a restriction is not required by the Commission, serious diversion of traffic from the Cotton Belt and other carriers would result. It also contended that the proposed acquisition, through stock control, is not in harmony with the Commission's final plan of consolidation of railroads and that the proposed stock control of the L. & A. is but a step in a larger plan for further consolidation of other railroads connecting with the L. & A., such as the Rock Island, Arkansas & Louisiana which the L. & A. seeks to purchase.

New Dates for Hearings on Safety Rules for Private Trucks

The Interstate Commerce Commission this week issued an order setting a new

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Fair and Company Officials Dedicate the Johns-Manville Exhibit Building at the New York World's Fair

series of later dates for the nine public hearings to be held next year in the Ex Parte No. MC-3 investigation instituted some time ago for the purpose of establishing for interstate private truckers reasonable requirements with respect to qualifications and maximum hours of service of employees and safety of operation — "if need therefor be found."

The hearings will be held before Examiner R. W. Snow, and the new schedule, which supersedes that published in the *Railway Age* of November 5, page 678, follows: February 20, 1939, Washington, D. C.; February 23, 1939, Hotel New Yorker, New York; February 27, 1939, Hotel Sherman, Chicago; March 2, 1939, Hotel Nicollet, Minneapolis, Minn.; March 6, 1939, Hotel Spokane, Spokane, Wash.; March 8, 1939, Hotel Multnomah, Portland, Ore.; March 13, 1939, Offices of California Railroad Commission, Los Angeles, Calif.; March 17, 1939, Hotel Fontenelle, Omaha, Nebr.; March 20, 1939, Hotel Peabody, Memphis, Tenn.

Safety Rules for Carriers Exempt from Other Regulations

The Interstate Commerce Commission, Division 5, has issued a report and order on further hearing in Ex Parte No. MC-4, dealing with the matter of qualifications of employees and safety of operation and equipment of those motor carriers which are exempt from the Motor Carrier Act's general provisions. The effect of the decision is to exempt from the commission's safety regulations all carriers operating wholly within a municipality or between contiguous municipalities or within the commercial zone of such municipalities. Also exempt is the occasional or casual operation of motor vehicles in interstate or foreign commerce for compensation, while taxicabs will not be required to be equipped with fire extinguishers.

Meanwhile the safety regulations promulgated December 23, 1936, for common and contract carriers will hereafter apply also to such operations as the following: School buses; taxicabs operating beyond municipal zones; vehicles operated by hotels; vehicles operated by agricultural cooperatives; trolley buses operating beyond municipal zones; carriers of livestock, fish and agricultural products; newspaper delivery trucks; plane-connection vehicles operating to and from airports.

Freight Car Loading

Revenue freight car loadings for the week ended December 10, totaled 619,340, the Association of American Railroads announced on December 15, one day earlier than the usual weekly report. This was a decrease of 29,746 cars, or 4.6 per cent under the previous week, an increase of 74 cars as compared with the corresponding week of 1937, and a drop of 167,732 cars, or 21.3 per cent, under the comparable 1930 week.

Loading of revenue freight for the week ended December 3, totaled 649,086 cars, an increase of 87,002 cars or 15.5 per cent above the preceding week which contained a holiday, an increase of 28,761 cars or 4.6 per cent above the corresponding week in 1937, but a decrease of 51,964 cars or 7.4 per cent below the same week in 1930. All commodity classifications except ore showed increases over the preceding week, while all commodity classifications except grain and ore showed increases over last year. The summary, as compiled by the Car Service Division, Association of American Railroads, follows:

Revenue Freight Car Loading

For Week Ended Saturday, December 3

Districts	1938	1937	1936
Eastern	142,153	132,031	167,079
Allegheny	119,793	109,383	150,409
Pocahontas	46,230	40,402	55,687
Southern	97,762	96,870	109,744
Northwestern ..	80,663	74,926	86,298
Central Western	110,327	109,353	115,066
Southwestern ..	52,158	57,360	61,012
Total Western Districts	243,148	241,639	262,376
Total All Roads.	649,086	620,325	745,295
Commodities			
Grain and Grain Products	35,775	37,413	36,288
Live Stock	16,681	15,154	17,847
Coal	143,644	126,716	168,087
Coke	7,927	6,152	11,646
Forest Products.	28,743	27,861	33,733
Ore	9,307	10,560	8,165
Merchandise l.c.l.	152,737	154,962	168,827
Miscellaneous ..	254,272	241,507	300,702
December 3	649,086	620,325	745,295
November 26 ...	562,084	555,762	680,300
November 19 ...	657,477	644,927	789,772
November 12 ...	636,710	685,926	784,980
November 5	673,333	728,765	759,615
Cumulative Total, 48 Weeks	28,168,533	35,538,188	33,497,117

In Canada.—Carloadings for the week ended December 3 totaled 47,707, as compared with 48,129 in the previous week and 50,568 a year ago, according to the weekly statement of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
Dec. 3, 1938.....	47,707	23,034
Nov. 26, 1938.....	48,129	20,968
Nov. 19, 1938.....	51,171	23,026
Dec. 4, 1937.....	50,568	24,970
Cumulative Totals for Canada:		
Dec. 3, 1938.....	2,273,982	995,212
Dec. 4, 1937.....	2,457,415	1,265,061
Nov. 28, 1936.....	2,294,212	1,125,965

Jones Asks Blanket Reduction on Farm Export Rates

A blanket reduction in all export freight rates on farm commodities was advocated by Representative Marvin Jones, (Democrat, Texas), chairman of the House Agriculture Committee in a statement which he released to the press on December 12. Mr. Jones contended that the Interstate Commerce Commission should require the railroads to make such a reduction, which, in his opinion, would stimulate the exportation of farm products, and by enlarging traffic, would benefit the railways as well.

Chairman Jones went on to say that in the grain rate hearing decided July 1, 1930, I. C. C. Commissioner Lewis, in concurring with the majority opinion, used the following language:

"Our carriers have extended—and we have not interfered—to manufacturers of iron and steel articles, automobiles, and farm machinery, rates 25 per cent lower on exports than on domestic shipments. If the same principle were here applied to wheat and its products it would have a vast beneficial result."

Mr. Jones concluded his statement by asking, "As industry has these reduced export rates, why should not the same reductions be given wheat and cotton and other farm commodities going into export as a simple matter of justice?".

Discusses Tennessee Waterway and Inter-territorial Rail Rates

H. J. Alldredge, director of the commerce department of the Tennessee Valley Authority, discussed the navigation phase of the Tennessee river project in testimony last week before the joint congressional committee investigating T. V. A. He also urged the enactment of legislation which would bring about adjustments in the present inter-territorial railway rate structure, repeating in that connection suggestions contained in the report entitled "Inter-territorial Freight Rates of the United States" which was reviewed in the *Railway Age* of June 12, 1937, page 988.

The Tennessee river navigation project calls for a 9-ft. channel for a distance of some 600 miles from Knoxville, Tenn., to Paducah, Ky. Although T. V. A., according to Mr. Alldredge had not anticipated any great increase in river traffic until the project was completed, there has already been a pick-up in tonnage—mainly petroleum products. The witness saw the improved Tennessee as an integral part of the national system of waterways, providing water transportation at relatively low rates. Representative Wolverton, Republican, of New Jersey, in questioning Mr. Alldredge, indicated his doubts that the volume of traffic available would justify the improvement.

Midland Valley Taxes Dismissed

Dismissal by the Sebastian Chancery Court of the state of Arkansas' suit to collect $281,000 allegedly due from the Midland Valley as back taxes for the years 1928 to 1934, inclusive, was upheld by the Arkansas Supreme Court at Little Rock, on November 5. The suit was filed on July 29, 1935, by the attorney general of the state, who charged that the railroad had not been assessed on credit, cash on hand, money on deposit and investments in stocks and bonds totaling more than $1,000,000 annually, Section 2051 of Pope's Digest providing for assessment of all property, real and personal owned by a corporation and not used in the utility operations of the corporation.

The railroad's testimony was not disputed by the state in the lower court, and it was not until June 14, 1938, nearly three years after filing the first complaint and more than three months after the case had been submitted to the chancellor last March, that the state asked for a resumption of the taking of testimony or for examination of the railroad's officers or for production of its records. The state supreme court, in upholding the lower court, pointed out that the only evidence in the case during its three year history was a deposition by C. J. Ingersoll, chairman of the board, who stated that all moneys, credits and revenue from stocks and bonds of the com-

pany constituted working funds growing out of and held and used by the company in the operation of its lines as a common carrier. Mr. Ingersoll had testified that had it not been for the return from its bonds, the railroad during the depression years would not have been able to pay its fixed charges.

The Railroads and Social Security Tax Tolls

Since the public apparently approves such objectives as pensions, old age benefits and unemployment compensation, it should display a corresponding interest in how the money is raised, declares H. D. Pollard, receiver, Central of Georgia, in the latest issue of his news letter "Talking Points." Pointing out that few people realize the increasing toll taken by the tax-gatherers for social security and similar purposes, which toll is not confined to employer alone, but reaches into the pay envelope of the employee as well, the writer cites the experience of the Central of Georgia and its employees in this respect.

Prior to 1936, the road maintained its own pension system, the expense of which was borne entirely by the company. This pension was superseded in 1936 by the Federal Railroad Retirement Act. In 1935, the Central of Georgia spent $111,555 for pensions. In 1938, under the Retirement Act, the railroad paid almost exactly twice as much—$222,717. At the same time, its employees, who in 1935 contributed nothing for pensions, were taxed $222,717 for this purpose. In other words, in three years' time the tax for pensions exacted from the employer and employee has grown to four times the amount originally contributed by the employer alone. And to make matters worse, the tax will increase for both parties as time goes on.

Whereas the railroad paid nothing for unemployment compensation prior to 1936, in 1938 its state and federal taxes for this purpose were $246,779. Totaling up these tax tolls it may be seen that the railway now pays $469,497 annually for pensions and unemployment compensation which, when joined to the employees' tax toll of $222,717, aggregates $692,214.

The Central of Georgia had 5,500 employees in 1935 and has approximately the same number today. In 1935 its expenditures for social purposes were $20 a person; in 1938 it reached a total of $85 per person in taxation against the employer and $125 per person in taxation against the employer and each employee.

Bard Addresses N. A. M.

Problems of labor, industry, commerce, government and politics were given broad treatment by an impressive list of speakers at the Annual Congress of American Industry held in New York on December 7 to 9, inclusive, under the auspices of the National Association of Manufacturers. During the sessions of the National Industrial Council, which were held on December 5-6, as a kind of dress rehearsal for the Congress, a transportation forum was held for consideration of the country's transport, during which F. N. Bard, president of the Barco Manufacturing Company, Chicago, speaking as chairman of the transportation committee of the N. A. M., urged the business leaders of the nation to recognize the transportation problems of the railroads and other carriers as of vital interest to business and shippers as well as to the management of the carriers themselves. "The railroad's baby,—the transportation problem—has now become the nation's orphan," he said.

"The effect upon industry and commerce of the policies they may establish or may be forced to accept," Mr. Bard said, "is so great that the businessmen of the country must co-operate in the formulation of these policies and business leaders throughout the nation should inform themselves about the fundamental problems which transportation faces." In so urging business to interest itself in transportation matters, the speaker emphasized the necessity of the passage of emergency transportation legislation at the earliest possible moment but said that nothing in such legislation should lead to greater governmental control of the railroads, or greater restrictions on their normal operations than now exist. "Any legislation should be based on supporting and helping the private enterprise system in railroad management," he declared. "Such restrictions and control of transportation as is undertaken by government should be only in the public's interest and should be limited to the minimum amount of legislation which will produce that result."

I. C. C. Probes Substitute-Service Practices and Tariff Rules

The Interstate Commerce Commission has instituted upon its own motion an investigation into the lawfulness of tariff rules published pursuant to outstanding special permissions in connection with the substitution of motor vehicle service for rail or water service and of rail or water service for motor vehicle service. The investigation, which is docketed as Ex Parte No. 129, will also look into the practices of respondents (all rail, water and motor carriers subject to the Interstate Commerce Act) in connection with such substitutions.

The rules referred to are those published in various tariffs, stipulating that the rates and charges provided in such tariffs shall apply to the through service even though the tariff-publishing carrier, at its option, substitutes another type of transportation for part of the haul. The outstanding special permissions in this connection were granted by the commission with the stipulation that such rules bear an expiration date of December 6, 1939, "unless sooner cancelled." The order of investigation notes that some motor carriers have been substituting rail service for motor vehicle service without tariff authority.

The order directs the respondents to reply in writing on or before February 10, 1939, to a series of questions, and to show

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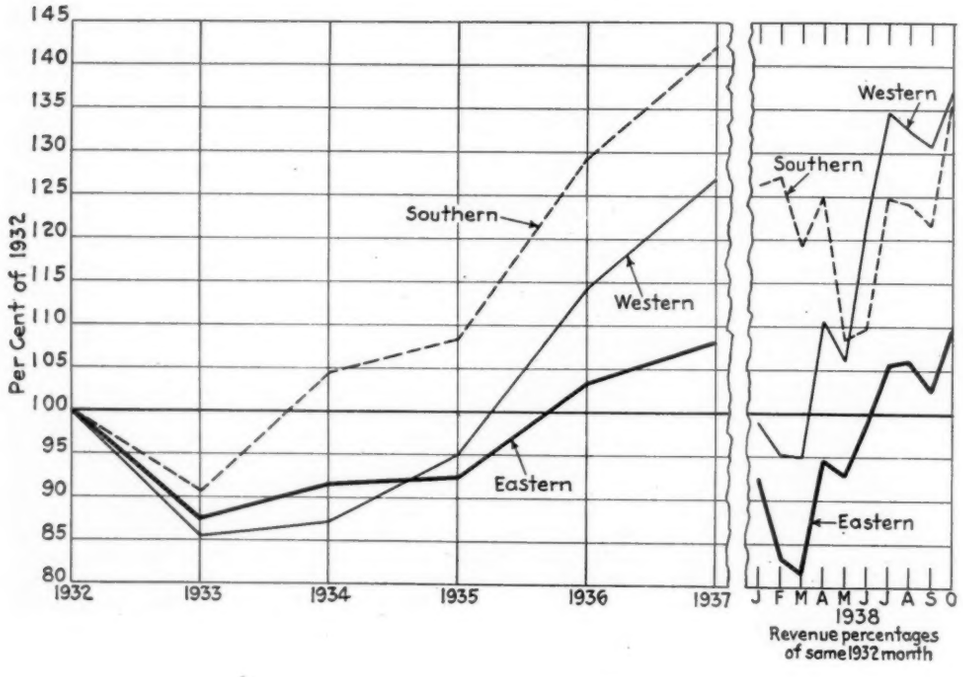

How Passenger Revenues in the Three Districts Have Fluctuated Since 1932, the Latest Year in Which the Basic Rate of 3.6 Cents Applied in All Territories. Percentage of 1932 Revenues Shown for 1933-1937 and Percentage of Months of 1932 for Corresponding Months of 1938

cause why the commission should not find that the special permissions should be rescinded and that the practices are unlawful. The questionnaire follows:

1. Should not special permissions and each of them which are referred to in the order of which this Appendix is a part, be rescinded?
2. Should not the tariff rules permitted to be published under the authority of said special permission be condemned as amounting to a declaration by the carriers that at their option they will breach their contract with the shipper for a particular form of transportation and that, although not furnishing such transportation, they will assess their tariff charge applicable to such transportation?
3. Why, when such through transportation is performed in fact partly by a common carrier subject to Part I, and partly by a common carrier subject to Part II of the Interstate Commerce Act, as amended, should it not be performed only under duly filed joint rates in accordance with the provisions of section 216 (c) of Part II of the Act and of Rule 31 of the Commission's Tariff Circular No. 20, as amended?
4. Why, when such through transportation is performed in fact partly by a common carrier subject to Part I and partly by a contract carrier by motor vehicle subject to Part II of the Act, should it not be prohibited as being the performance of a common carrier service and thus beyond the authority of the contract carrier to perform under its operating authority?
5. Why, if it be assumed that a contract carrier by motor vehicle may perform a part of such through common carrier service as the agent of a common carrier subject to Part I of the Act, should not the latter carrier be held to be engaging as principal, in common carrier transportation by motor vehicle?
6. Why should not the operating authority of a common or contract carrier by motor vehicle who substitutes rail service for its own road-haul motor vehicle service in lieu of the latter, be revoked in whole or in part, whether the motor carrier is operating.
   (a) under a certificate or permit duly issued to it by the Commission, or
   (b) under the provisions of Section 206(a) or 209 (a) of the Motor Carrier Act which permit the continuance of lawful operations pending the determination of an application for operating authority duly filed with the Commission?

Unions and Trade Groups Protest Coal Truck Application

Application by an independent motor trucker of anthracite for an I. C. C. certificate to transport the fuel from Pennsylvania mines across state lines to New York City for direct retail distribution brought vigorous protests not only from counsel for anthracite railroads but from non-railroad labor unions, established retail coal dealers, coal producers and trade associations as well, all of whom appeared as interveners at a hearing on the petition held in New York on December 12 before M. B. Driscoll, examiner for the Interstate Commerce Commission. In fact, everyone appeared,—except the petitioner himself.

The petition, docketed as MC 89220—petition of A. C. Coal Company, Brooklyn, N. Y., for certificate—aroused the protest of railroad counsel that the petitioner had been transporting coal in interstate commerce without certificate, in violation of the motor carrier act. In view of the applicant's failure to appear, railroad counsel moved for dismissal for lack of prosecution, which was taken under advisement by the examiner. Representatives of local bodies of the engineers', firemen and oilers', the teamsters' and the longshoremen's unions, representing workers engaged in water shipment of anthracite from railhead, protested the application on grounds that unionized employees engaged in the anthracite industries would be injured by the sale of "bootlegged" coal, while unsatisfactory labor conditions in such trucking enterprises would react unfavorably on the employees of established transport agencies.

Representatives of retail dealers complained on the grounds of unfair competition by an irresponsible party. In this connection it was pointed out that such truckers as the applicant possess no storage space as do established coal dealers, and should the latter be driven out of business by competition, "New York City will wake up one day in a blizzard to learn that no fuel is available." Officers of the Anthracite Institute, representing producers, declared that the industry desired reliable transportation such as is offered by the railroads. All protesting parties appeared to agree that over-the-road truck transportation of coal cannot be performed economically, that labor must perform the service at less than a living wage and under unbearable working conditions.

The applicant, it was brought out, has been transporting anthracite over state lines up to several months ago, without "grandfather rights" and in spite of warnings to desist by the commission.

C. A. Halpin, Grover James and E. S. Shreve appeared for the Trunk Line Association.

1937-1938 Road Improvement Exceeds 10-Year Average

Over 15,000 miles of highway were improved during the past fiscal year in the program administered by the Bureau of Public Roads of the U. S. Department of Agriculture, according to the annual report of the bureau. The bureau also supervised the elimination of 711 grade crossings, reconstruction of 144 obsolete grade crossing structures, and protection of 744 crossings by signs and signals. Both the amount of work done per mile of improvement, and the total mileage improved, have considerably exceeded the average rates over the past 10 years.

The greater portion of the work was done in cooperation with State highway departments and in this way 12,129 miles of highway was improved. This work included 9,333 miles of rural portions of the Federal-aid highway system, 559 miles on municipal portions of the Federal-aid system, 201 miles of secondary roads in municipalities, and 2,036 miles of rural secondary roads.

Classified according to type of construction, the year's work in cooperation with the States consisted of 1,506 miles of graded and drained road; 4,998 miles of treated and untreated sand-clay, gravel, and macadam; 1,989 miles of low-cost bituminous mix; 213 miles of bituminous macadam, 419 miles of bituminous concrete; 2,870 miles of portland cement concrete; and 134 miles of bridges, grade separations, and miscellaneous types.

"Advancement during the year of the program of eliminating hazards to life at railroad grade crossings was an important contribution to highway safety," says a Department of Agriculture press release. "In addition to the protection of life and property, grade separations effect considerable savings in time and inconvenience to public travel on the highways. More than half of the expenditures during the year for this class of work was in municipalities, reflecting the relatively greater danger and delays at city and suburban crossings.

"The year saw the near completion of the emergency program of road construction, and was marked by the initiation of Federal aid for secondary and farm-to-market road construction and the extension of outright Federal grants for highway-railroad grade crossing elimination as parts of the regular Federal highway program."

During the year the bureau supervised road construction in National parks, National forests, reconstruction of flood damaged roads, and roads financed with funds allotted by the Public Works Administration and the Works Progress Administration. Work of this class aggregated 3,215 miles.

Also, the report cites the modernization of the Federal-aid highway system as "one of the most important features of the Federal-aid program," However, it goes on, "there is a large mileage of roads that cannot be traveled with facility and case—roads on which the driver must accommodate himself to conditions that are definitely inferior to present-day standards." It adds that "this is a condition that has been unavoidable and is being corrected as rapidly as funds can be obtained."

Briefs Are Filed in Wages and Hours Controversy

Various bus operators, trucking companies, and the American Trucking Associations, Inc., have filed briefs with the Interstate Commerce Commission preparatory to oral argument on December 16 on the question of whether or not the Motor Carrier Act of 1935 gives the commission power to regulate the wages and hours of all people connected with the motor carrier industry, including non-operating employees, or whether the latter come under the jurisdiction of the new Fair Labor Standards Act.

The A. T. A. takes the position that:

1. The commission has jurisdiction to prescribe qualifications and hours of service for all employees of common and contract carriers, subject to the Motor Carrier Act.
2. The jurisdiction of the commission covers all the purposes and policies of the Motor Carrier Act.
3. Congress has prescribed full, adequate and complete legislative standards for the exercise of jurisdiction.
4. The Motor Carrier Act, as written, is clear and unambiguous and confers jurisdiction per se.
5. The intent of Congress is also made clear upon consideration of both the Motor Carrier Act and the Fair Labor Standards Act and the legislative history of both acts.
6. Congress intended to exempt all clases of employees of common and contract carriers from the hour provision of the Fair Labor Standards Act.

In concluding its brief, the A. T. A. says that "considering the letter of the statutes, the policy of Congress, the public need for services, the need for service, the need for uniformity in regulation, and the economics of the industry we ask the commission to hold that Congress has given the commission complete and exclusive jurisdiction, over all common and contract

carrier employees, for any and all purposes of the Motor Carrier Act."

In another brief the Greyhound Operating Companies and the National Bus Traffic Association took the position that the commission has the exclusive right to regulate the wages and hours of operating employees. The brief also pointed out that "if the federal government has any authority over wages and hours of non-operating employees, including joint agents, that jurisdiction lies solely in the I. C. C."

Reports on Motor Applications

The Interstate Commerce Commission, Division 5, has approved the purchase by the Frisco Transportation Company, affiliate of the St. Louis-San Francisco, of the common-carrier truck-operating rights of J. A. Rose on the 26-mile route between Hugo, Okla., and Paris, Texas. Commissioner Rogers dissented without giving his reasons therefor.

With another dissent of Commissioner Rogers merely noted, Division 3 has approved the purchase of three Texas truck lines by the Southern Pacific Transport Company, affiliate of the Southern Pacific. The lines involved are the Sanders Motor Freight Line's 33-mile route between Houston and Sugarland; the Sandgarten Motor Freight Lines' 165-mile route between Houston and Elgin; and the Seacoast Motor Line's 32-mile route between Bay City and Palacios.

In another decision Division 5 has passed upon applications of the Missouri Pacific Transportation Company, affiliate of the Missouri Pacific, for authority to purchase a bus route between Paris, Ark., and Dardanelle from the Dardanelle Transfer Company, affiliate of the Dardanelle & Russellville; and another between Kansas City, Mo. and Higginsville from the White Line Stage Line. Acquisition of the latter was authorized while similar action in connection with the former was deferred for 30 days in order to permit the Fort Smith, Subiaco & Rock Island to make a presentation with respect to the adequacy of its passenger service in the territory involved so that the commission can decide upon the question of imposing restrictions as to service at stations now served by the Subiaco.

Joint Board No. 41, composed of M. C. Cleveland of New York and D. J. Driscoll of Pennsylvania, has recommended in a proposed report that the commission issue common-carrier bus certificates to the Central Greyhound Lines, affiliate of the New York Central, for four routes as follows: Between Lima, N. Y., and Batavia; between Erie, Pa., and West Springfield; between Mount Pocono, Pa., and Stroudsburg; and between Collins Landing, N. Y., over the international boundary on Thousand Islands Bridge, N. Y.

Examiner A. F. Borroughs has recommended in a proposed report that the commission approve a rearrangement of routes by the Pennsylvania Greyhound Lines, affiliate of the Pennsylvania. The proposal contemplates common-carrier bus certificates for five routes in Ohio, Pennsylvania, Indiana and Kentucky, and authority to abandon two routes between some of the points involved.

Joint Board No. 36, composed of John E. McCullogh of Kansas and John C. Highberger of Missouri, has recommended in a proposed report that the commission grant a common-carrier bus certificate to the Burlington Transportation Company, affiliate of the Chicago, Burlington & Quincy, for operations between Beverly, Mo., and Leavenworth, Kans. The same report recommends denial of the applicant's request for truck-operating rights on the route.

Examiner G. P. Werner has recommended in a proposed report that the commission deny "grandfather-clause" applications of Stordor Freight Service, Inc., affiliate of the Cincinnati & Lake Erie. The applicant sought rights as a common-carrier, a contract trucker or a broker for operations between points in Ohio and other states.

Division 5 has denied the application of the Santa Fe Trails of Illinois, affiliate of the Atchison, Topeka & Santa Fe, for authority to acquire control of the Peoria-Rockford Bus Company. The decision, after brief introductory remarks, adopts the proposed report of the examiner who had found that the Barker-case principle applied in that the proposed acquisition could not be deemed other than "an extension of the railroad's influence into territory not naturally served by it, and already served by other railroads and motor carriers."

Examiner A. Henry Walter of the Bureau of Motor Carriers' Section of Finance has recommended approval of the Railway Express Agency application for authority to acquire certain operating rights and property of Southeastern Express Company, which was recently merged into R. E. A.

Western Pacific Revamp Opposed

(*Continued from page 889*)

stockholders, through the authorization of additional capital stock out of a total capitalization of not less than $120,000,000 or in the alternative, reopening of the proceeding for further testimony and argument.

The petition of the A. C. James Company, as secured creditor of the debtor company in the amount of $4,999,800, said that the plan of the commission is objected to by substantially all classes of creditors. The Irving Trust Company, as trustee under the general mortgage, asked the commission to modify the final plan so as to provide for the issuance to the general mortgage bondholders of securities on a par with those awarded to the first mortgage bondholders to the extent of the value of the collateral on which the general mortgage is admittedly a first lien.

The position taken by the institutional bondholders' committee is that the commission's plan violates the rule laid down by the United States Supreme Court in the case of the Northern Pacific Railroad vs. Boyd, in which the court held that bondholders were entitled to have all their claims satisfied before anything could be given to the equity holders.

Accompanying the institutional bondholders' petition was a new proposed plan of reorganization which would set the capitalization at $93,705,690. Undisturbed equipment trusts, Baldwin lease and Pullman contract would total $2,750,050; $10,000,000 of new first mortgage four per cent bonds, series A, due in 1989, would be issued as also would be $20,901,240 of 4½ per cent income mortgage bonds, series A, due 2014. There would also be issued 313,519 shares of five per cent participating preferred stock, series A, of $100 par value and 287,025 shares of common stock without par value. The total annual charges, capital fund, sinking fund and preferred dividend requirements, under the proposed plan would amount to $3,606,859.

The Railroad Credit Corporation and the Reconstruction Finance Corporation have also filed briefs contending that certain features of the commission's plan are unsatisfactory to them and have asked that certain changes be made in it.

Roads Could Spend Billion Each Year

(*Continued from page 890*)

he said, the same consideration is not given to the railroads as that given to other property owners. "If the federal government in determining the taxes on railroad property would take into consideration amounts which the carriers spend on rehabilitation of property," he suggested, "then that policy might have some effect on the states."

Relief for the railroads from the federal undistributed profits tax and introduction of the merit-rating principle into the railroad unemployment insurance tax set-up were also suggested by Judge Fletcher.

Before entering upon the above discussion of prospective expenditures, the A. A. R. general counsel made some reference to profit-sharing and to the debt situation of the railroads. Railroads, he said in the former connection, have had no experience with profit-sharing, adding that in recent years the revenues have been so scanty that there were practically no profits to share. As to profit-sharing in general he went on to suggest that there should perhaps be a distinction drawn between regulated and non-regulated industries. He doubts that the Interstate Commerce Commission would permit the railroads to adjust rates on a basis which would allow the accumulation of any amounts which might be shared with employees; nor does he think that railroad labor would be in sympathy with profit-sharing plans. Employees, he explained, have always felt that their share from prosperous business should come to them in the form of wage increases.

As to railroad funded debt, Judge Fletcher said that "nothing has more unanimous approval" than the idea that there should be some debt reduction on the railroads; and he thinks the I. C. C. is "properly and wisely" endeavoring to bring about the creation of sinking funds for that purpose. Senator Vandenberg, Republican, of Michigan, asked if legislation should not be enacted which would permit railroads to buy their own bonds at present depressed prices and at the same time exempt them from taxation on the resultant

gains therefrom. Judge Fletcher replied that there was no question as to the desirability of such relief "if other considerations of public interest would permit it."

The same suggestion had been made the previous week by Senator Vandenberg when it won a qualified endorsement from two other members of the Senate finance committee—Senators Herring of Iowa and King of Utah, both Democrats. At the same time Senator Truman, Democrat, of Missouri, a member of the Senate committee on interstate commerce expressed doubt that the proposal was practical, it being his view that few roads could obtain funds for such bond purchases.

Ninety Years of Loco. Building

(*Continued from page 889*)

ten months for the representative to travel to the national capitol and return.

In 1901 the Schenectady Locomotive Works and seven other locomotive building concerns were merged to form the American Locomotive Company. Two more companies were added later. Combining and concentrating the engineering and designing personnel of all the plants at Schenectady, proved a most important factor in making locomotive design the art and science that it is today. In enumerating a "few outstanding brief flashes," Mr. Dickerman pointed out that Locomotive No. 870, the engine that hauled the first Empire State Express, was built at Schenectady. So was the locomotive that hauled the first Twentieth Century. The first Mallet articulated compound locomotive built in America came out of the same gate. Locomotive No. 50,000 was built at the company's expense to demonstrate and prove Coles ratios and can "rightfully be called the grand-daddy of modern motive power." More recent accomplishments are the Hiawatha for the Chicago, Milwaukee, St. Paul & Pacific, and the present streamlined New York Central Hudson type, with over 1,500 hp. per driving axle. In commenting upon the public belief that there had not been much change in the steam locomotive, Mr. Dickerman pointed out the great number of important recent improvements that have been made to the locomotive.

While Mr. Dickerman realized that the people of Schenectady wanted to know about future possibilities, he refused to make any predictions. He did, however, point out that the American Locomotive Company has concentrated all its United States locomotive building at the Schenectady plant. Dunkirk has Alco Products Division activities, Richmond has accessories, Auburn has Diesel engines, and Latrobe and Chicago Heights have the Railway Steel Spring Division. In the second place, the directors of the company have spent about four million dollars since 1930 in making improvements in the Schenectady plant, this, to some extent at least, reflecting the viewpoint of management as to future expectations.

Mr. Dickerman then pointed out that on October 1, 1928, the railroads owned 56,947 locomotives, 44,779 being in actual service. On October 1, 1938, the railroads owned only 42,827 locomotives of which 31,157 were in actual use. In the ten-year interval only 2,000 new locomotives were built. At a time when the problem of national defense is receiving so much attention, the transport facilities that may be required should not be overlooked. Brigadier-General Pillsbury, in speaking recently to a group of army officers at Fort Humphrey, Va., deplored the fact that our nation did not realize the importance of railways to whatever military operations necessity might force upon us, and cautioned that in the interest of self-preservation the present decline in rail transportation facilities should be halted.

In closing the program President Dickerman awarded suitable emblems to 17 employees who have been in service in the Schenectady plant for 50 years or more; indeed, the total service of these 17 men has been more than 900 years, Thomas F. Goggins, chief draftsman, leading the group with over 57 years of service

Mahogany Becomes One of Ex Parte 123's Ten Per Centers

The Interstate Commerce Commission has issued a decision in Investigation and Suspension Docket No. 4490, permitting the railroads to include mahogany among the commodities taking the 10 per cent rate increases authorized in Ex Parte 123. Lumber, shingles and lath, and articles taking lumber rates were among the commodities limited to five per cent in the Ex Parte 123 decision, and the present decision dealt with the question of whether or not it was intended to include mahogany in those categories.

Commissioner Caskie dissented with Commissioners Meyer, Eastman and Porter concurring in his expression. Commissioner McManamy did not participate in the disposition of the proceeding.

British Railways Ask for a Square Deal Too

Constituting an almost direct parallel to the program of the Association of American Railroads for equality of the rail carriers with other businesses and other forms of transport, the Railway Companies' Association, speaking for the British railways has inserted an advertisement in British publications entitled "The Railroads Ask for a Square Deal," which contains many of the tenets of the American railroads' recent "statement of policy." The statement runs as follows:

"Much is being said about the poor financial position of the railway industry. The real position can be stated in a few short sentences.

"(1) In fixing rates and conditions for carrying merchandise the railways are bound by statutory controls and regulations which have lasted a hundred years and grown more rigid with age.

"(2) No other form of goods transport is subject to such restrictions or anything comparable with them.

"(3) Moreover, no other form of transport has or can have such basic duties and responsibilities to the state as those which the railways must bear at all times and more especially in times of national emergency.

"(4) It will be impossible for the railways adequately to discharge those national services and duties unless they are now set free to put their house in order, and to run their business on business lines.

"(5) The railways have no desire whatsoever to interfere with other transport services or with any other business.

"(6) They merely want the chance to put themselves right so that they may be able to meet fair competition in a fair way. The main transport services should all start equal.

"(7) The time honoured shackles which fetter the railways alone and well nigh strangle their goods traffic must go.

"(8) And they must go before it is too late.

"(9) A short Act of Parliament is required this session to meet a crying national need."

Equipment and Supplies

C. & N. W. Plans for New Equipment

The Chicago & North Western, on December 14, asked the Federal district court at Chicago for authority to purchase new streamlined equipment and diesel power units for two "400" trains at a cost of $2,320,000, $720,000 for the locomotive and $1,600,000 for 10 cars. The court fixed December 23 as the date for hearing upon the petition.

Each train will consist of a locomotive and 10 cars, including a tap room-lounge car, 4 coaches, 1 diner, 3 parlor cars, and 1 observation-club car. The diesel power equipment for each train is to consist of a double unit, with double-end control, and be capable of generating 4,000 h. p. and of attaining a maximum speed of 120 m. p. h.

Operating plans, as outlined in the petition, provide for inauguration of the new trains early next summer. These new trains are to incorporate the most modern advances made in power and passenger carrying equipment. They will be streamlined in accordance with the latest discoveries in that field, while interior decorations, appointments and color schemes will be of the most modern type. The exterior color scheme of the new trains will be autumn brown and yellow in harmony with that of the fleet of streamliners now operated by the Chicago & North Western. The new coaches, diners, parlor cars and lounge cars are to be 82 ft. long.

Cotton Belt to Spend $1,668,356

The St. Louis-Southwestern has asked the federal district court at St. Louis for authority to spend $1,668,356 on additions and betterments in 1939. Of this amount $995,225 is to be spent for new rails and freight cars, while $673,131 is for improvements authorized last year by the court but not carried out because of lack of cash. They are largely in shops and buildings

and will be made only if the cash is available.

LOCOMOTIVES

Frisco Budget $3,490,534

Trustees of the St. Louis-San Francisco on December 6, asked the federal district court for authority to spend $3,490,534 for roadway and mechanical improvements in 1939. The roadway program calls for expenditures of $2,306,421. The principal improvements will be new rails and other track materials, $1,251,311; bridges and trestles $714,026; signals $140,735; widening of cuts and fills $72,090. The budget calls for 70 miles of 112-lb. rails to replace 90 and 100-lb. rails, virtually all on the main line. The lighter rails are to be reconditioned and placed on branch lines. Expenditures for mechanical improvements total $1,128,179 and include the purchase of five mountain-type locomotives for freight service.

THE FREDERICKSBURG & NORTHERN is considering the purchase of one consolidation-type locomotive for freight service.

PASSENGER CARS

New Streamlined Room Cars for N. Y. C. and P. R. R.

Eighty light-weight streamlined room cars are being constructed by the Pullman-Standard Car Manufacturing Company, Chicago, for the Pullman Company for operation on the New York Central and the Pennsylvania. On the New York Central the 40 cars will be used on the Detroiter, the Commodore Vanderbilt, the Water Level and the Southwestern. The cars, which will be delivered by July 1, are as follows:

	N. Y. C.	Pa.
10 roomette, 5 double bedroom	8	6
18 roomette	8	18
6 double bedroom, buffet, lounge	6	..
1 drawing room, 1 compartment, 2 double bedroom, observation, buffet	3	..
13 double bedroom	6	4
2 drawing room, 4 compartment, 4 double bedroom	9	6
12 duplex	..	6
	40	40

THE ATLANTIC & WESTERN is inquiring for one 40-ft. 9-in. rail motor car to be equipped with gas-mechanical drive.

FREIGHT CARS

THE ILLINOIS CENTRAL is inquiring for 1,000 gondola cars of 50 tons' capacity.

THE NORFOLK & WESTERN is inquiring for 35 Class HC-3 covered hopper cars, of 70 tons' capacity.

THE WABASH has been authorized by the Federal district court to install automobile loading racks in 200 freight cars and make general repairs on 100 of the cars.

THE CHESAPEAKE & OHIO recently bought 6,400 tons of fabricated steel car parts for use in repairing freight cars at its Russell, Ky., car shops.

THE NORFOLK & WESTERN has awarded contracts for the construction of 1,500 steel hopper coal cars of 55 tons' capacity. The order was divided evenly between the Bethlehem Steel Company and the Virginia Bridge Company. Inquiry for this equipment was reported in the *Railway Age* of November 26, page 791.

THE WAR DEPARTMENT, ORDNANCE DEPARTMENT, Frankford Arsenal, Philadelphia, Pa., is inquiring for one flat car of 50 tons' capacity.

IRON AND STEEL

THE UNION PACIFIC plans to purchase 80,000 to 100,000 tons of rails and fastenings in 1939.

CHESAPEAKE & OHIO-PERE MARQUETTE —The Chesapeake & Ohio has placed orders for 25,000 tons of new steel rail and the Pere Marquette for 3,250 tons, placing 15,160 tons with the Carnegie-Illinois Steel Corporation, 2,955 tons with the Bethlehem Steel Company and 10,135 tons with the Inland Steel Company.

SIGNALING

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—Bids will be received until 10:00 a. m., December 28, for miscellaneous signal material to be used in connection with federal grade crossing protection projects in the State of Washington, at Tiflis, Dishman, Lansburg, Black River Junction, Opportunity, and Chehalis. Plans may be obtained from G. H. Walder, purchasing agent, Chicago.

Construction

ATLANTIC COAST LINE.—The Interstate Commerce Commission, Division 4, has further extended to January 1, 1940, and March 31, 1940, the dates within which this company shall commence and complete the construction of an extension of its line in Columbus County, N. C.

Supply Trade

Appliance Exhibit to Be Held in March

The National Railway Appliances Association will hold its annual exhibit at the International Amphitheatre, Chicago, on March 13-16, 1939. Decision to hold the exhibit this year was made by the board of directors on December 9, and was based upon prospects for increased business in 1939. Applications for space will be mailed on December 23 and allotments will be made on January 27.

OBITUARY

Horace B. Spackman, retired vice-president of the Lukens Steel Company, Coatesville, Pa., died on December 11 of a heart attack at the age of 77. Mr. Spackman was born in Caln township, near Coatesville, on October 21, 1862, and attended grade school there and later at Johnson's Academy, near Guthriesville. In January, 1881, Mr. Spackman started work with the Lukens Steel Company as an office boy and in 1892 he was appointed purchasing agent of the company. He became vice-president in 1900, leaving that position in May, 1929, at which time he retired from active duty after more than 48 years of continuous service with the company. In 1897, he was elected a director and served in that capacity until his death.

Horace B. Spackman

Sir Thomas Octavius Callender, founder of the Okonite-Callender Cable Company, Inc., died on December 3, at the age of 83, in Kent, England. His leadership in the cable industry earned him the sobriquet of "The Cable King." He strung the wires of London's first electric street lights and laid cables in the Strand to electrify the Law Courts, the first big buildings to be lighted by electricity in London. The "Callender Solid System" a method of protecting street cables was invented by him. Sir Thomas was born in Glasgow, in 1855, and after completing his education in England and France, entered his father's asphalt paving and bitumen refining firm, Callender & Sons. In 1896, he became managing director of the newly formed Callender Cable & Construction Co., and under his guidance, this small firm in cable making grew to world-wide connections. As one of England's leading industrialists he was knighted in 1918.

Sir Thomas Octavius Callender

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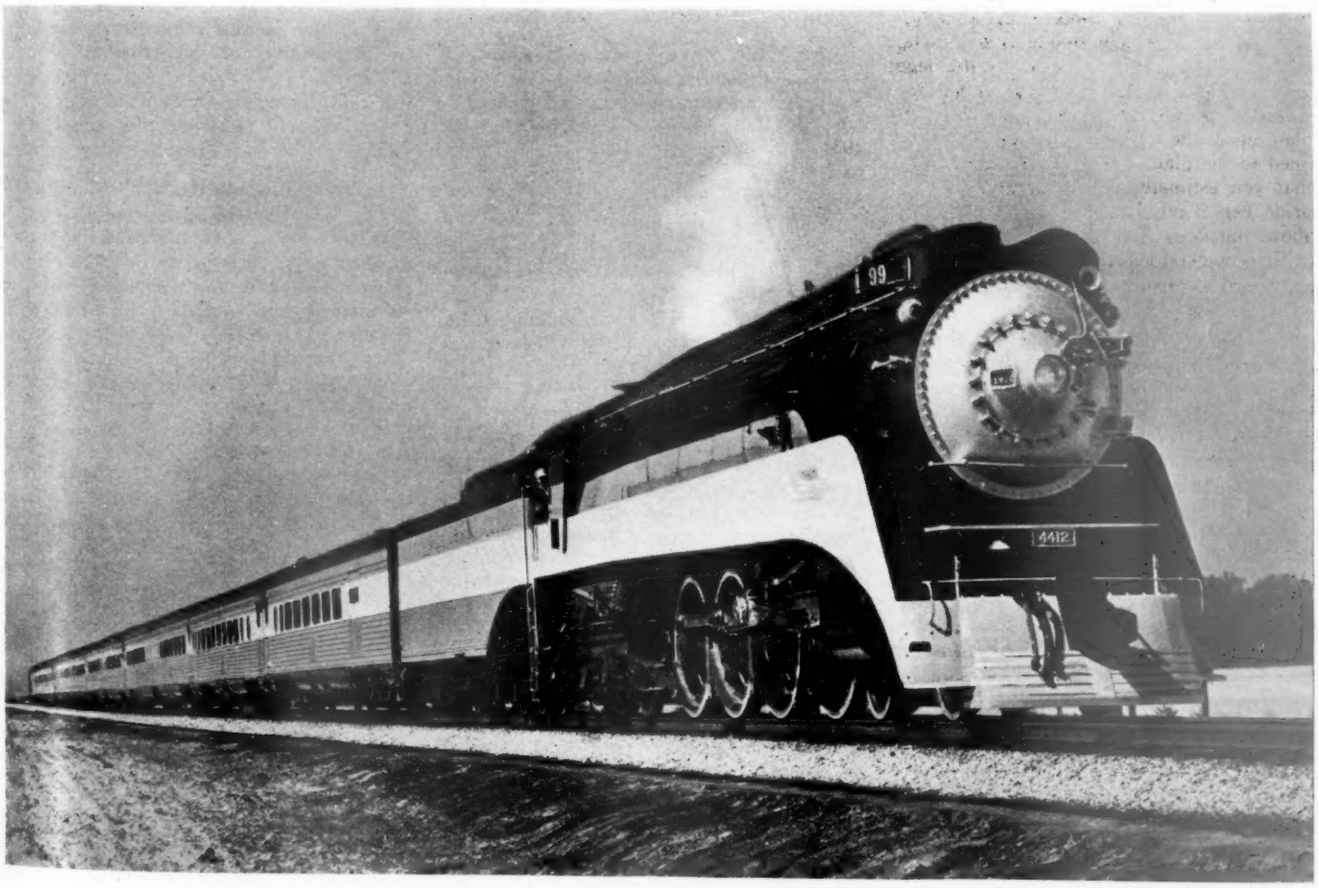
PASSENGER ENTHUSIASM . . .

for the "Daylight" necessitates 84 extra sections in three months

During the months of June, July & August the Southern Pacific found it necessary to add 84 extra sections to accommodate the increasing number of passengers preferring to travel on the streamlined train, the "Daylight." During July and August, alone, the average number of passengers carried by these trains was 1030 daily.

Today the public is becoming more insistent on comfortable, high-speed streamlined trains; trains that, like the "Daylight," are powered by steam and are capable of covering their route smoothly and quickly, and with a maximum of passenger comfort.



LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED INCORPORATED, LIMA, OHIO

Financial

BALTIMORE & OHIO.—*Abandonment by the Pittsburgh & Western.*—The Baltimore & Ohio has asked the Interstate Commerce Commission for authority to abandon the operation of the line and the Pittsburgh & Western has asked for authority to abandon the line extending from Callery, Pa., to Ribold, 5.8 miles.

CHESAPEAKE & OHIO.—*Bonds.*—Halsey, Stuart & Co. and associated firms have offered an issue of $30,000,000 of 3½ per cent refunding and improvement bonds of this company, due 1963, priced at 101½ to yield 3.41 per cent.

CHICAGO & EASTERN ILLINOIS.—*New Money to Expedite Reorganization.*—Jesse Jones, chairman of the Reconstruction Finance Corporation, in a letter to Kenneth D. Steere, chairman of the board of this company, has announced that the R. F. C. will provide the new money needed to facilitate the reorganization of this company. Mr. Jones' letter to Mr. Steere follows:

"If the plan of reorganization of the Chicago & Eastern Illinois, approved by the Interstate Commerce Commission under date of November 4, 1938, is made effective, this Corporation will accept new prior lien bonds proposed in the plan for its present indebtedness and, subject to the approval of the commission and the approval by our legal division of the legal details, enough additional said prior lien bonds to provide the cash required in the plan upon the terms and conditions outlined in the plan. From your letter I note that you estimate that $11,306,000 of new prior lien bonds will be required for the above purposes.

"It is understood and agreed that the reorganized company will deposit sufficient additional prior lien bonds of the same issue, to protect this Corporation against loss in the sale of the bonds to be issued to it in accordance with the foregoing, in such amount as may be approved by the Interstate Commerce Commission, and as may be mutually agreed upon between us."

CHICAGO, BURLINGTON & QUINCY.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon a line extending from Van Wert, Iowa, to Decatur City, 9.1 miles.

CHICAGO GREAT WESTERN.—*New Money for Reorganization.*—This company will get $6,500,000 of new money from the Reconstruction Finance Corporation to carry out its reorganization if the Interstate Commerce Commission's plan is made effective on or before June 30, 1939, according to a letter from Jesse Jones, chairman of the R. F. C., to Patrick H. Joyce, co-trustee of the company. Mr. Jones' letter follows:

"Referring to your letter of December 5, beg to advise that if the I. C. C.'s plan of August 4, 1938, for reorganizing the Chicago Great Western, with appropriate modification approved by our legal division, is made effective on or before June 30, 1939, this corporation will, subject to the approval of the Interstate Commerce Commission and the approval by our legal division of legal details, loan to the reorganized company $6,500,000, or such part thereof as may be needed to effect said plan, on its note for 10 years, secured by 125 per cent in principal amount of the new first mortgage bonds referred to in said plan, to be used for the purposes set forth in said plan and for working capital in addition to that provided for in said plan."

CHICAGO, ROCK ISLAND & PACIFIC.—*Reorganization.*—The Interstate Commerce Commission, Division 4, has refused to admit additional evidence in this company's reorganization case. The commission refused to reopen the case on the petition of the Chase National Bank, of New York, as trustee for the $32,228,000 of unsecured 30 year 4½ per cent convertible gold bonds of the road. The bank sought to have admitted into the record an exhibit dealing with the earnings of the road in New Mexico.

ILLINOIS CENTRAL.—*Extension of Bonds of the Yazoo & Mississippi Valley.*—The Interstate Commerce Commission, Division 4, has authorized the Yazoo & Mississippi Valley to extend from January 1, 1939, to January 1, 1952, the date of maturity of $17,037,000 of gold improvement bonds.

NEW YORK, NEW HAVEN & HARTFORD.—*Equipment Trust Certificates.*—The Interstate Commerce Commission, Division 4, has further modified its orders of May 18, 1934 and December 26, 1934, so as to limit to $2,227,000 the amount of this company's equipment trust certificates of 1934.

Abandonment by the Old Colony.—Division 4 has also authorized the trustees of the New Haven to abandon the operation and the trustees of the Old Colony to abandon a branch line extending from North Carver, Mass., to Middleboro, 7.6 miles.

PENNSYLVANIA.—*Abandonment by the Western New York & Pennsylvania.*—The Interstate Commerce Commission, Division 4, has authorized the Pennsylvania to abandon the operation and the Western New York & Pennsylvania to abandon that portion of the New Castle branch extending from Houston Junction, Pa., to Stoneboro, 12.3 miles.

SMOKY MOUNTAIN.—*Abandonment of Operation by the Tennessee & North Carolina.*—The Interstate Commerce Commission, Division 4, has authorized the Tennessee & North Carolina to abandon the operation of a line of the Smoky Mountain extending from Vestal, Tenn., to Sevierville, 29.2 miles, and over a line of the Southern between Vestal, Tenn. and Knoxville, 2.2 miles. At the same time the commission denied the Smoky Mountain the right to abandon its line.

SOUTHERN.—*Equipment Trust Certificates and R. F. C. Financing.*—The Interstate Commerce Commission, Division 4, has authorized this company to assume liability for $6,000,000 of its four per cent equipment trust certificates, maturing in 14 annual installments beginning February 1, 1941, as follows: $436,000 on February 1, 1941, and $428,000 on February 1 of each year thereafter to and including February 1, 1954. At the same time the commission authorized the Reconstruction Finance Corporation to purchase these certificates for itself at a price not in excess of their principal amount. The proceeds of the certificates will be used to purchase approximately 2,400 all-steel freight cars and 25 70-ft. all-steel express cars, costing an estimated $6,000,000.

SOUTHERN PACIFIC. — *Abandonment.* — The Interstate Commerce Commission, Division 4, has authorized this company to abandon its so-called Narlon branch extending from Narlon, Calif., to Gray, four miles.

SOUTHERN PACIFIC.—*Stock of the Interurban Electric.*—The Interurban Electric, a subsidiary of the Southern Pacific, has asked the Interstate Commerce Commission for authority to issue and sell 20,000 shares of capital stock to the Southern Pacific for $200,000.

SOUTHERN PACIFIC.—*Operation by the Interurban Electric.*—The Interstate Commerce Commission, Division 4, has authorized the Interurban Electric, a subsidiary of the Southern Pacific, to operate interurban electric railway service over certain lines of the Southern Pacific and the line in the course of construction by the California Toll Bridge Authority across the San Francisco-Oakland bridge. The operations will total 40 miles and will be located in the San Francisco Bay area.

SPOKANE INTERNATIONAL. — *Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized the trustee to abandon the operation of a branch line extending from Corbin Junction, Idaho, in an easterly and southeasterly direction to Bayview, 11.6 miles.

WESTERN MARYLAND. — *Extension of Bonds of the Washington & Franklin.*—The Washington & Franklin has asked the Interstate Commerce Commission for authority to extend until January 1, 1954, the maturity date of $378,000 first mortgage five per cent bonds, due January 1, 1939, with interest during the extended period reduced to 4¼ per cent. The Western Maryland has asked for authority to guarantee both the principal and interest of the bonds.

Average Prices of Stocks and Bonds

	Dec. 13	Last week	Last year
Average price of 20 representative railway stocks..	29.79	29.30	31.97
Average price of 20 representative railway bonds..	59.98	59.58	68.04

Dividends Declared

Chicago, Burlington & Quincy.—$2.00, payable December 27 to holders of Record December 17.

Delaware Railroad.—$1.00, semi-annually, payable January 3 to holders of record December 15.

Elmira & Williamsport.—7 Per Cent Preferred, $1.60, payable January 3 to holders of record December 20.

Joliet & Chicago.—$1.75, quarterly, payable January 3 to holders of record December 20.

Philadelphia, Baltimore & Western. — $1.50, payable December 31 to holders of record December 15.

Pittsfield & North Adams.—$2.50, semi-annually, payable January 3 to holders of record December 31.

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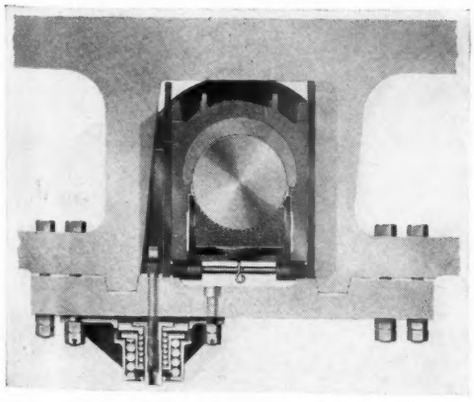
ACCURACY...

where it counts



Franklin Automatic Compensator and Snubber

Protect the foundation of your locomotive and you maintain the accuracy of the entire structure. » » » Franklin Compensators and Snubbers prevent abnormal shocks that send locomotives to the shop for expensive repairs. They are avoiding loss of service and high costs by automatically maintaining the accurate fits you provided for in the original specifications. Perhaps you couldn't get shock absorbers then but you can now. Let us co-operate on a home application program. You can even change over in the round house during washout periods.

No locomotive device is better than the replacement part used for maintenance. Genuine Franklin repair parts assure accuracy of fit and reliability of performance.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

Railway Officers

EXECUTIVE

Cass M. Herrington has been appointed receiver of the Rio Grande Southern, with headquarters at Denver, Colo., succeeding **Victor A. Miller,** resigned.

Acosta Nichols has been elected vice-president of the Mexican Northern, and **Charles S. Witherell** has been elected second vice-president.

W. R. Pfizer, assistant to the vice-president and secretary of the Panama Railroad, with headquarters at New York, has been elected third vice-president and secretary.

Henry B. Curtis, general counsel of the Louisiana Southern, with headquarters at New Orleans, La., has been appointed president and receiver, with the same headquarters, succeeding **Henry S. Fleming,** whose death on October 19 was reported in the *Railway Age* of October 22. **D. W. McDow,** general manager and auditor, with headquarters at New Orleans, has been elected also vice-president.

Amnon I. Derr, whose election as vice-president and secretary of the Pittsburgh & West Virginia at Pittsburgh, Pa., was noted in the *Railway Age* of December 10, was born on March 15, 1885, at Cumberland, Md. He was educated at Alleghany County High School and Mountain State Business College and entered railroad service in the spring of 1908 with the Baltimore & Ohio at Cumberland as stenographer in the division engineer's office, later being transferred in the same capacity to the superintendent's office there. He then served successively as linesman on the engineering corps, Cumberland-Grafton division, and secretary to general freight agent. On March 10, 1908, Mr. Derr became secretary to general manager of the Morgantown & Kingwood at Morgantown, W. Va., and on May 10, 1910, cashier of the Union Utilities Company (later the West Virginia Traction & Electric Co.) in that city. In January, 1913, he went with the Morgantown & Wheeling as auditor and later became traffic manager and general manager of this company. On June 1, 1924, Mr. Derr became assistant to vice-president of the Pittsburgh & West Virginia at Pittsburgh, being appointed assistant to president on March 1, 1931. He was elected treasurer of the P. & W. Va. on April 1, 1931, secretary and treasurer on May 4, 1931, and comptroller and secretary on May 3, 1937, holding the latter positions at the time of his recent election as vice-president and secretary. During the interim between March 1, 1931 and October 28, 1938, Mr. Derr retained the position of assistant to president.

Kaiden-Kazanjian

Amnon I. Derr

Julien L. Eysmans, vice-president and assistant to the president, Pennsylvania, with headquarters at Philadelphia, Pa., has retired under the company's pension regulations after 47 years of service. Mr. Eysmans was born in Brussels, Belgium, and received his education in Baltimore, Md., where he entered the service of the Pennsylvania in 1891 in the office of the division freight agent. After serving in various capacities at Baltimore, Washington, D. C., and other cities on the Pennsylvania's eastern lines, Mr. Eysmans became, in 1904 eastern superintendent of the Star Union Line, the designation then applied to the Pennsylvania's through fast freight service. In 1906 he became general freight agent of the Cumberland Valley, a part of the Pennsylvania, and in 1911, division freight agent of the Pennsylvania at Pittsburgh, Pa. He was promoted to assistant general freight agent, with headquarters at Philadelphia, in 1912, and in 1916 became general freight agent. Mr. Eysmans was appointed traffic manager at Philadelphia in 1920 and in 1923 was transferred in that capacity to Pittsburgh. He was subsequently assistant general traffic manager and in 1925 became general traffic manager of the Pennsylvania system. He was elected vice-president in charge of traffic on August 1, 1925, and the following year was made a member of the board of directors. He was appointed vice-president and assistant to president on October 16, 1933.

Julien L. Eysmans

FINANCIAL, LEGAL AND ACCOUNTING

G. R. Selkirk has been elected treasurer of the Panama Railroad, with headquarters in New York, succeeding **V. M. Newton,** deceased.

L. E. Hall has been appointed general counsel of the Louisiana Southern, with headquarters at New Orleans, La., succeeding **Henry B. Curtis,** whose appointment as president and receiver is announced elsewhere in these columns.

W. A. Gibbons, whose retirement as auditor of revenues of the Norfolk & Western was reported in the *Railway Age* of December 3, was born on October 16, 1868, and was educated at Oak Hill Academy and Randolph-Macon College. He entered the service of the Norfolk & Western in April, 1888, as a clerk in charge of the office of auditor of station accounts. He resigned on May 15, 1901, and returned to his former position on July 1 of the same year. Mr. Gibbons was promoted to auditor of station accounts on May 1, 1924, with headquarters at Roanoke, Va. Six years later, he became auditor of freight receipts, holding that position until March 1, 1933, when he was appointed auditor of revenues.

John L. Erdall, whose promotion to general counsel of the Minneapolis, St. Paul & Sault Ste. Marie, with headquarters at Minneapolis, Minn., was announced in the *Railway Age* of December 10, was born in Dane County, Wis., and graduated from the University of Wisconsin Law School. He entered railway service in 1901 as assistant general attorney of the Chicago Great Western. In March, 1908, he went with the Minneapolis, St. Paul & Sault Ste. Marie as general attorney, and was later promoted to general solicitor, the position held at the time of his recent promotion.

John L. Erdall

James L. Hetland, whose promotion to general solicitor of the Minneapolis, St. Paul & Sault Ste. Marie, with headquarters at Minneapolis, Minn., was announced in the *Railway Age* of December 10, was born at Ada, Minn., on September 5, 1900, and graduated from the Law School of the University of Minnesota in 1924. Af-

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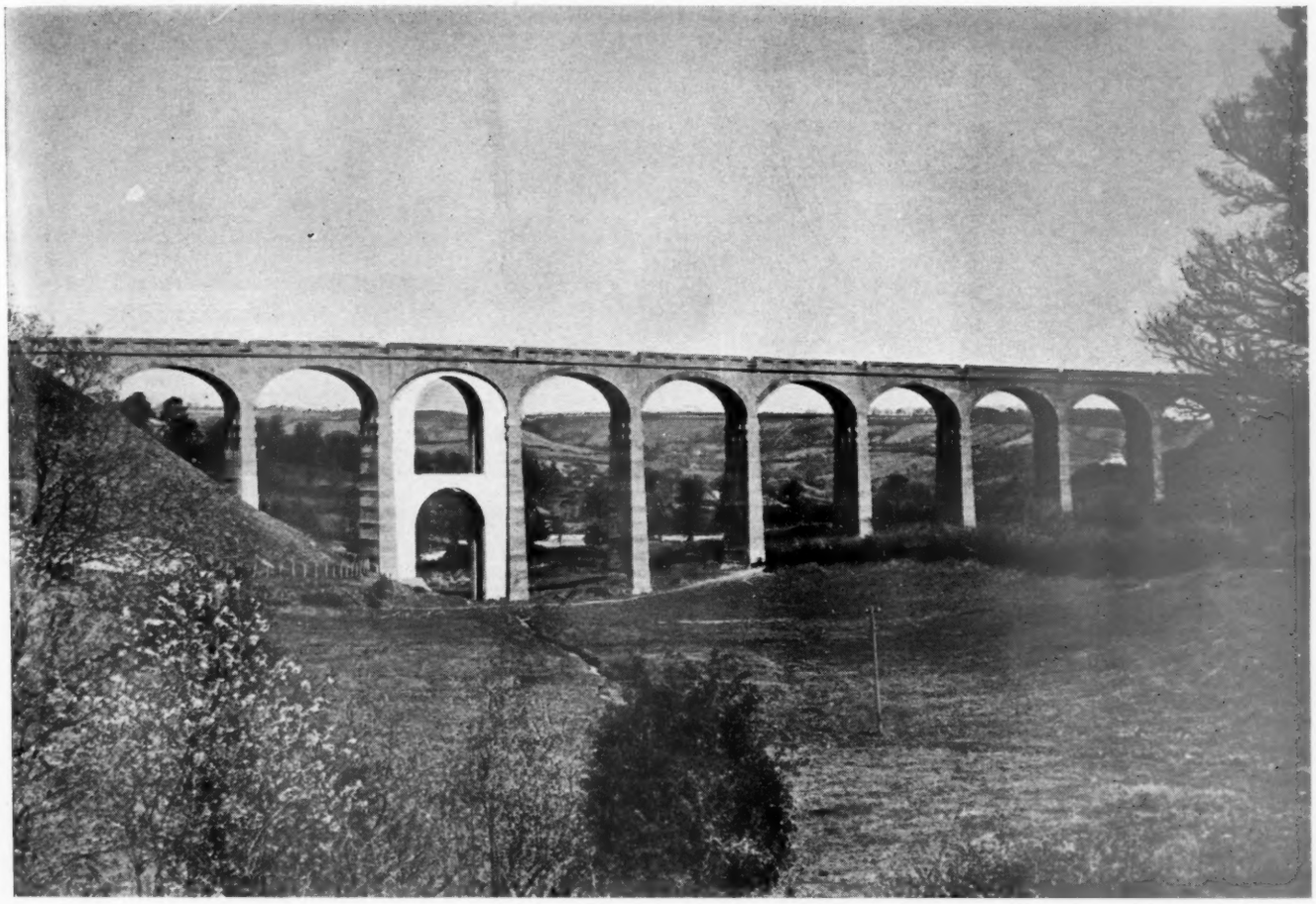
NO. 75 OF A SERIES OF FAMOUS ARCHES OF THE WORLD



CANNINGTON VIADUCT

ENGLAND

This viaduct, consisting of ten elliptical arches of 50 ft. clear span was built in 1903 and is an early example of large concrete arch construction. The arches are 2 ft. 6 in. thick and are built of mass concrete, with precast voussoirs on the face, and were cast on timbering centering supported on the ornamental corbels at the top of the piers which are visible in the photograph » » » 28 years ago the Security Sectional Arch was first introduced. While there have been improvements to keep pace with present day railroad problems the basic design remains the same and is today the standard on American Railroads.

THERE'S MORE TO SECURITY ARCHES THAN JUST BRICK

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists

AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

ter several months' service with the firms of Kingman, Cross, Morley & Cant and Rockwood & Mitchell, in Minneapolis, he

James L. Hetland

entered railway service on October 14, 1924, as an attorney for the Soo Line. On October 1, 1934, he was promoted to general attorney, and on September 1, 1937, he was advanced to assistant general solicitor, with headquarters at Minneapolis, the position he held at the time of his recent promotion.

OPERATING

R. A. Nelson has been appointed superintendent of the Roanoke terminals of the Norfolk & Western, as reported in *Railway Age* of December 10. Mr. Nelson was born on October 30, 1884, at Charlemont, Va., and entered the service of the Norfolk & Western as scale clerk at Vivian, W. Va., in September, 1902. He was appointed car checker in 1904 and night yardmaster at Northfork, W. Va., a year later. He then served successively as night and day yardmaster, general yardmaster and assistant trainmaster. Mr. Nelson was appointed trainmaster of the Scioto division in October, 1925, and was transferred

R. A. Nelson

to the Norfolk division in the same capacity in 1932, where he remained until his recent appointment.

Henry W. Davidson, whose promotion to superintendent of the Missouri-Kansas-Texas, with headquarters at Smithville, Tex., was announced in the *Railway Age* of December 3, was born at Clifton, Tenn., on October 25, 1887, and entered railway service on October 13, 1910, as a night clerk at Troy, Tex. On March 7, 1911, he was promoted to telegraph operator, and served as an operator and agent at various stations until August, 1919. On the latter date, he was advanced to district agent of the Texas Central district, and in February, 1921, he was promoted to supervisor of claim prevention. On November 1, 1924, he was appointed yardmaster at Waco, Tex., and one month later he was advanced to trainmaster of the South Texas district. On July 1, 1930, he was appointed superintendent of claim prevention, and two years later he was appointed supervisor of agents. He was again appointed trainmaster of the South Texas district with headquarters at Waco, Tex., on October 10, 1934, the position he held at the time of his recent promotion.

Henry R. Koch, whose promotion to superintendent of the Galena division of the Chicago & North Western, with head-

Henry R. Koch

quarters at Chicago, was announced in the *Railway Age* of December 3, was born at Norwalk, Wis., on March 14, 1886, and entered railway service on May 14, 1901, as a telegrapher and agent on the Madison division of the North Western. Four years later, he was promoted to train dispatcher on that division, and on April 1, 1914, he was advanced to transportation inspector, with headquarters at Chicago. On April 1, 1917, he was appointed chief dispatcher at Adams, Wis., and fifteen days later was transferred to Chicago. On January 1, 1925, he was promoted to trainmaster on the Iowa division, with headquarters first at Boone, Iowa, and later at Council Bluffs, Iowa. Mr. Koch was advanced to assistant superintendent of the Iowa division, with headquarters at Clinton, Iowa, on June 1, 1927, and a year later he was transferred to the Galena division, with headquarters at Chicago, the position he held at the time of his recent promotion.

Harry E. Dickinson, whose retirement on December 1, as general superintendent of the Western lines of the Chicago & North Western, with headquarters at Omaha, Neb., was announced in the *Railway Age* of December 3, was born at St. Charles, Minn., on October 29, 1868, and entered the service of the North Western on November 2, 1881, as a telegrapher on the Minnesota and Dakota division. In August, 1888, he became a cashier in the freight station at Huron, S. D., and a year later was promoted to agent at Clark, S. D. In 1896, he was transferred to Yankton, S. D., and in 1898, to Watertown, S. D. In August, 1907, he was promoted to trainmaster on the Minnesota division, with headquarters at Tracy, Minn., and three years later he was advanced to superintendent of the Iowa and Minnesota division, with headquarters at Mason City, Iowa. In April, 1912, he was transferred to the Dakota division with headquarters at Huron, S. D., and in 1919, he was promoted to general superintendent of the Western lines, with headquarters at Norfolk, Neb. Mr. Dickinson's headquarters were transferred to Omaha on March 1, 1920.

Harry R. Younger, whose promotion to superintendent of the Kettle Valley division, British Columbia district, of the Canadian Pacific, with headquarters at Penticton, B. C., was announced in the *Railway Age* of December 3, was born at Montreal, Que., on November 18, 1885, and attended Ottawa Collegiate and McGill University, Montreal, graduating in civil engineering from the latter in 1910. He entered railway service in April, 1906, as a rodman in the maintenance of way department of the Canadian Pacific at Ottawa, Ont., and later served as a chainman and a transitman on construction work in Saskatchewan and in the maintenance of way department at Montreal. In 1910, Mr. Younger was promoted to instrumentman and resident engineer on location and construction of the Kootenay Central branch in British Columbia and in 1915, he was appointed assistant engineer on the Intercolonial Railway (now part of the Canadian National) at Levis, Que. In 1916, he was assigned to the Laboratory of Gauges and Standards of the Imperial Ministry. He returned to the service of the Canadian Pacific as a transitman on the Vancouver division in 1920, and in 1923, he was advanced to assistant engineer in charge of concrete lining of the Connaught tunnel at Glacier, B. C. Two years later, Mr. Younger was promoted to roadmaster of the Revelstoke division, and in 1928, he was advanced to division engineer of the Kootenay division, with headquarters at Nelson, B. C., the position he held until his recent promotion.

Robert R. Cummins, assistant general manager of the Central of Georgia, with headquarters at Savannah, Ga., has been promoted to general manager, succeeding **C. E. Weaver,** whose death on November 27 was reported in the *Railway Age* of December 3. Mr. Cummins was born on September 30, 1884, at Marion, Ala., and was graduated from the University of Alabama in 1906. He entered the service of the Central of Georgia on September 1, 1909, and, except for his war service in France with the A. E. F. as a first lieutenant in the Engineer Corps, has been continuously with that company since that date. Mr. Cummins first served as a draftsman and was successively promoted

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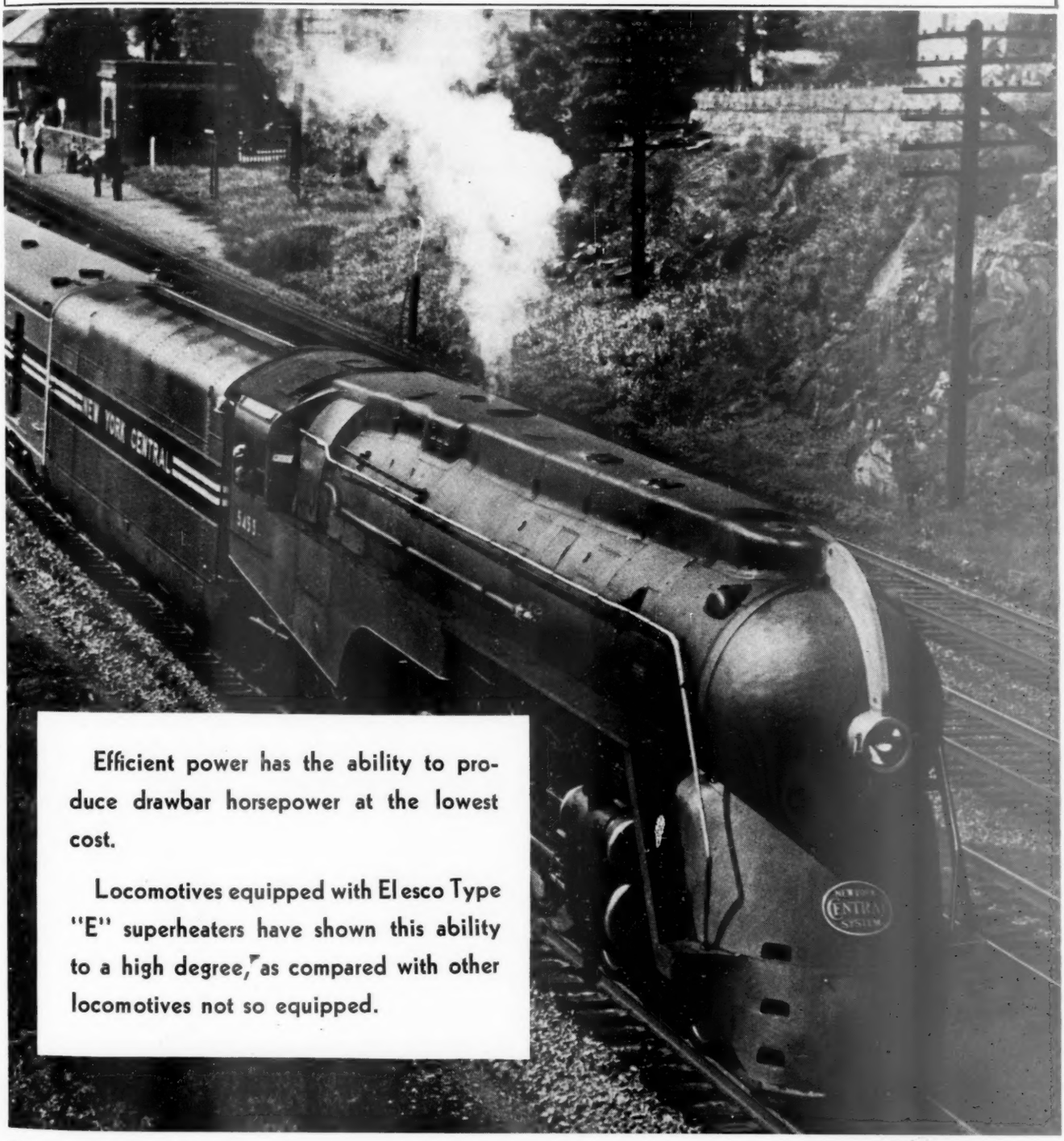
It Takes Efficient Power

To Make Money These Days



Efficient power has the ability to produce drawbar horsepower at the lowest cost.

Locomotives equipped with Elesco Type "E" superheaters have shown this ability to a high degree, as compared with other locomotives not so equipped.

ELESCO

A-1284

THE SUPERHEATER COMPANY

Representative of AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK 122 S. Michigan Ave., CHICAGO
Canada: THE SUPERHEATER COMPANY, LTD., MONTREAL

Superheaters « Exhaust Steam Injectors « Feed Water Heaters « American Throttles « Pyrometers « Steam Dryers

to instrumentman, assistant engineer, supervisor of bridges and buildings, assistant trainmaster and roadmaster. On December

R. R. Cummins

1, 1927, he was appointed superintendent of the Savannah division and on October 1, 1931, became superintendent maintenance of way. He served in this capacity until 1933, when he was promoted to general manager, which position he filled from July 15, 1933, to June 22, 1936, while Mr. Weaver was on leave of absence to serve as southern regional director for the federal co-ordinator of transportation. On the latter date Mr. Weaver returned to the service of the Central of Georgia and Mr. Cummins was appointed assistant general manager, the position he held until his recent appointment.

W. H. Kelly, whose promotion to general superintendent of the Second Operating district of the Chicago, Rock Island & Pacific, with headquarters at Kansas City, Mo., was announced in the *Railway Age* of December 3, was born at Russellville, Mo., on September 30, 1879, and attended the Joplin (Mo.) Business College during 1896 and 1897. Mr. Kelly entered railway service on October 2, 1901, as a brakeman on the St. Louis-San Francisco and until 1909, he served on that road, the Missouri

W. H. Kelly

Pacific, the Missouri-Kansas-Texas, the Atchison, Topeka & Santa Fe and the Kansas City Southern as brakeman, switchman and conductor. In 1909, he became a switchman on the Chicago, Burlington & Quincy, and in the following year he was appointed assistant yardmaster. Later he was promoted to night yardmaster at Kansas City, Mo., and in 1918, he was advanced to trainmaster of the Chicago division. Three years later he became terminal trainmaster at Galesburg, Ill., and in September, 1928, he was promoted to acting superintendent of the St. Louis terminals of the Burlington. Mr. Kelly was advanced to superintendent of those terminals on October 1, 1929. In 1936, he went with the Rock Island as special representative of the chief operating officer, and in July of that year he was appointed superintendent, with headquarters at Rock Island, Ill., the position he held until his recent promotion.

James Frank Ross has been appointed general manager of the New York City department of the Railway Express Agency, succeeding **Robert Balfour,** retired, as reported in the *Railway Age* of December 3. Mr. Ross began his career 32 years ago in express transportation in Boston, where he advanced in operating, accounting and supervisory work to the position of superintendent of terminals. He

James Frank Ross

was called to New York in November, 1923, to participate in efficiency and organization work in the Eastern territory, and was assigned to the vice-president's staff, becoming assistant to vice-president in December, 1936, the position he held until his recent appointment.

Mr. Balfour has been in the express business for about 52 years, most of which was spent in New York City. Starting in Canada in April, 1886, he went to New York in 1893 to write and deliver notices of arrival of express shipments at the Custom House. He was in charge of the West Side Terminal, then the largest in the country, when it was completed late in 1911. Subsequently he became assistant superintendent, general manager of transportation and assistant to vice-president. Mr. Balfour was appointed general manager of the New York City department in October, 1927, which position he held until his retirement.

Charles E. Sainsbury, whose promotion to general superintendent of the Western lines of the Chicago & North Western, with headquarters at Omaha, Neb., was announced in the *Railway Age* of December 3, was born at Lamoille, Minn., on November 16, 1877, and graduated from the University of Minnesota in 1903. He entered railway service on August 1, 1892, with the Chicago, Milwaukee & St. Paul,

Charles E. Sainsbury

serving intermittently while attending school, as a telegraph operator, clerk and agent, with the Milwaukee, the Northern Pacific and other lines. He entered the service of the North Western on July 1, 1906, as a train dispatcher, subsequently being promoted to chief train dispatcher and to trainmaster. Mr. Sainsbury was further promoted to assistant superintendent at Milwaukee, Wis., on June 1, 1924, and on April 1, 1934, he was advanced to assistant general superintendent, with headquarters at Norfolk, Neb., the position he held at the time of his recent promotion.

TRAFFIC

James L. Carr, whose appointment as perishable freight agent of the New York, Ontario & Western, with headquarters at San Francisco, Cal., was noted in the *Railway Age* of December 10, was born on January 13, 1903, at Waltham, Mass. He was educated at La Salle High School, Waltham, and Suffolk Law School, Boston, Mass. Mr. Carr entered railroad service as chief clerk on the Western

Charlotte Crosby

James L. Carr

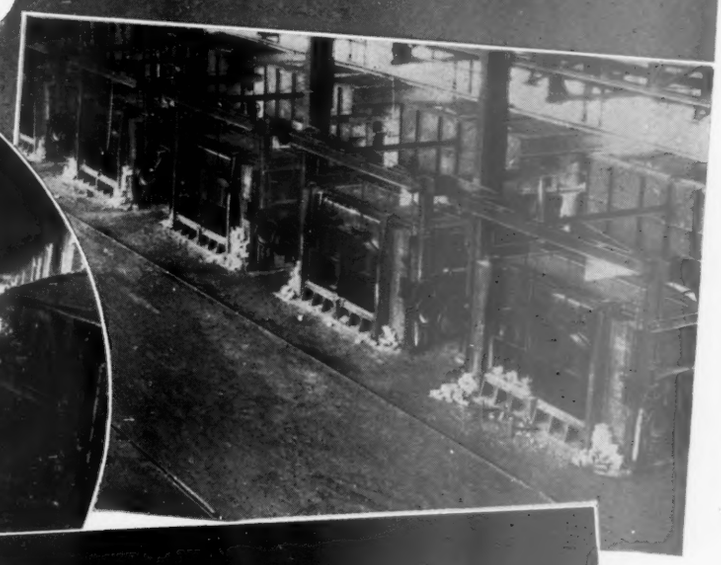
Maryland on August 1, 1924, and on September 28, 1925, became chief clerk on the Nickel Plate. He was appointed commercial agent of the New York, Ontario & Western on July 15, 1929, and was promoted to general agent of that road at

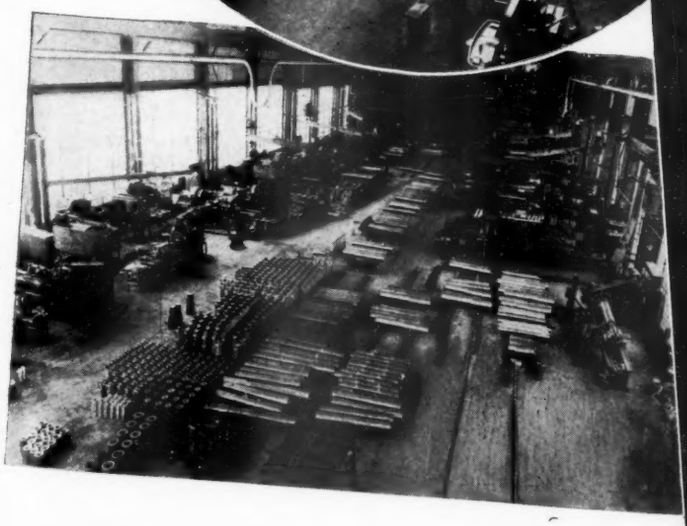
Continued on next left-hand page

HIGHER AND HIGHER SPEEDS

DEMAND

Light Weight Forgings





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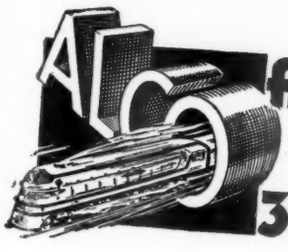


AMERICAN LOCOMOTIVE COMPANY

30 CHURCH STREET·NEW YORK·N·Y

Boston on January 1, 1936, which position he held until his appointment as perishable freight agent, effective January 1, 1939.

A. P. Smirl, assistant to vice-president, solicitation, of the Texas & Pacific, with headquarters at Dallas, Tex., has been appointed assistant traffic manager, solicitation, a change in title.

E. O. Wirsing has been appointed general freight agent, superintendent of car service, and freight claim agent, of the St. Louis O'Fallon, with headquarters at St. Louis, Mo., succeeding **H. J. Tietze.**

W. T. Ahearn, traveling agent on the Minneapolis & St. Louis, with headquarters at New York, has been promoted to general agent at that point, filling a position that has been vacant since the promotion of **Roy W. Nelson** to assistant traffic manager, which was announced in the *Railway Age* of April 23.

Karl H. Suder, freight traffic manager of the Akron, Canton & Youngstown and the Northern Ohio, with headquarters at Akron, Ohio, has been promoted to general traffic manager, a newly created position, with the same headquarters, and **J. J. King,** general freight agent, with headquarters at that point, has been advanced to freight traffic manager in charge of rates, with the same headquarters.

William H. McCune, chief clerk of the traffic department of the Union Pacific at Los Angeles, Cal., has been promoted, effective January 1, 1939, to general freight agent, with headquarters at Los Angeles, to succeed **W. F. Lincoln,** who will retire on that date.

Mr. McCune entered railway service in 1904 as a call boy on the Union Pacific at Salt Lake City, Utah and later was promoted through various minor positions at that point. In 1920, he was advanced to assistant chief clerk of the traffic bureau at Salt Lake City, and in 1922 he was transferred to Los Angeles. In October, 1925, Mr. McCune was promoted to chief clerk of the traffic department.

Mr. Lincoln was born at Baltimore, Md.,

William H. McCune

on November 12, 1870, and entered railway service in May, 1887, in the general freight office of the Southern Pacific at San Francisco, Cal. On January 1, 1905, he went with the San Pedro, Los Angeles & Salt Lake (now part of the Union Pacific) as a rate clerk, and on November 15, 1911, he was promoted to assistant general freight agent, with headquarters at Los Angeles. Mr. Lincoln was advanced to general freight agent at that point in September, 1922.

T. L. Darneal, general agent, freight department, on the Missouri-Kansas-Texas, with headquarters at Cincinnati, Ohio, has been appointed general agent in charge of both the freight and passenger departments at that point, a newly created position. **F. P. O'Donnell,** general agent, passenger department, at that point, has been appointed traveling freight and passenger agent, with the same headquarters, and the position of general agent, passenger department, has been abolished.

MECHANICAL

H. W. Reynolds has been appointed mechanical engineer of the Norfolk & Western with headquarters at Roanoke, Va., as reported in the *Railway Age* of

H. W. Reynolds

December 10. Mr. Reynolds was born on May 24, 1883, and entered the service of the Norfolk & Western as a draftsman at Roanoke in December, 1905. He was promoted to mechanical inspector in December, 1918, and to foreman at Bluestone, W. Va., in May, 1924. Three years later he was appointed general foreman there. He returned to Roanoke as mechanical inspector in 1928 and was promoted to assistant mechanical engineer in November, 1936, the position he held until his recent appointment as mechanical engineer.

Jose Morales Sanchez has been appointed superintendent of motive power of the Southern Pacific of Mexico, with headquarters at Empalme, Son., Mexico, succeeding **A. Kasten.**

PURCHASES AND STORES

K. L. Brenner, acting purchasing agent of the Wabash, with headquarters at St. Louis, Mo., has been promoted to purchasing agent with the same headquarters succeeding **T. J. Frier,** who retired because of ill health on December 1.

Mr. Frier was born at Keokuk, Iowa on February 12, 1866, and entered railway service in 1883 as a junior clerk in the office of the master mechanic of the St. Louis, Keokuk & Northwestern (now a

K. L. Brenner

part of the Chicago, Burlington & Quincy). After advancing through various positions he was appointed general storekeeper for the Burlington system in 1907. In 1909, he resigned to go with the Wabash as purchasing agent, with headquarters at St. Louis, Mo., and continued in that position until his retirement.

Mr. Brenner was born at St. Louis, Mo., on March 16, 1894, and entered railway service on June 1, 1912, as a clerk on the Missouri Pacific. On March 16, 1914, he went with the Wabash as a clerk and on May 1, 1923, was promoted to chief clerk. On April 1, 1935, he was advanced to assistant purchasing agent, and on September 16, 1938, to acting purchasing agent.

R. Flores has been appointed purchasing agent of the Southern Pacific of Mexico, with headquarters at Guadalajara, Jal., Mexico, succeeding **R. C. Munguia.**

R. F. Schram, division storekeeper of the Wisconsin division of the Chicago & North Western, with headquarters at Chicago, has been promoted to stationer, succeeding **O. F. Kaapke,** who has retired.

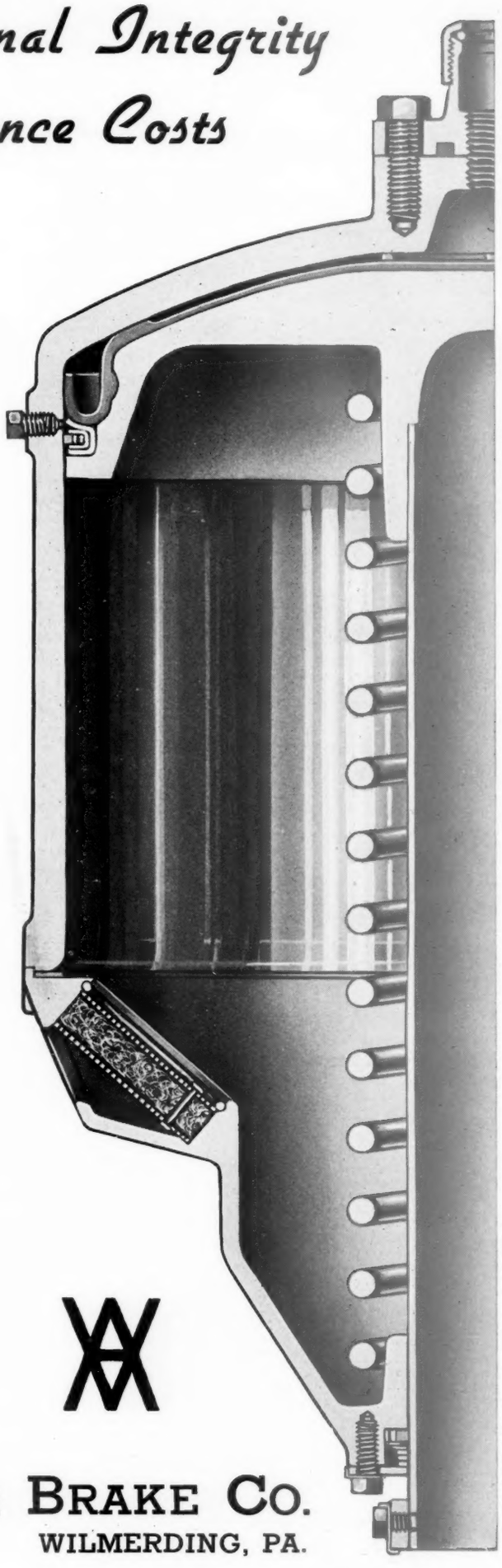
C. Miles Burpee has resigned as research engineer in the purchasing department of the Delaware & Hudson, with headquarters at Albany, N. Y., to become managing editor of the **Railway Engineering and Maintenance Cyclopedia,** a Simmons-Boardman publication, succeeding **Arthur H. Peterson,** who has resigned because of ill health. Mr. Burpee has been active in the Purchases and Stores division of the Association of American Railroads and the American Railway Bridge and Building Association, of which latter organization he was president during the past year.

SPECIAL

R. C. Parker, assistant to the general manager of the Texas & Pacific, in charge of trucking operations, with headquarters at Dallas, Tex., has been promoted to chief special agent, with the same headquarters, succeeding **R. R. McElree,** deceased.

Table of Revenues and Expenses Begins on next left-hand page

For Higher Functional Integrity and Lower Maintenance Costs



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has the following outstanding characteristics that provide for better and longer service • • • Reenforced flanged union insures tight pipe connection • • • Pressure head integral with body reduces clearance volume, eliminates gasket, and hence a possible source of leakage • • • "Snap-on" WABCO packing cup eliminates follower plates and bolts, reduces leakage, and simplifies replacement • • • Tight-fitting rings and a grease-packed felt swab around hollow rod, a gasket between head and body, and a cartridge type strainer in the required "breather" opening, prevent entrance of dust at the non-pressure end • • • A grease-filled groove and grease-soaked felt swab spread lubricant over the cylinder walls at each piston stroke. Grease grooves in piston and around hollow rod may be refilled by grease-gun, through tapped openings, without dismantling cylinder • • • The advantages of this cylinder have been amply demonstrated by the many now in service, and it merits a more wide-spread application. • • •

WESTINGHOUSE AIR BRAKE CO.

General Office and Works: WILMERDING, PA.

Operating Revenues and Operating Expenses of Class I Steam Railways

Compiled from 137 Monthly Reports of Revenues and Expenses Representing 141 Class I Steam Railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF OCTOBER, 1938 AND 1937

Item	United States		Eastern District		Southern District		Western District	
	1938	1937	1938	1937	1938	1937	1938	1937
Miles of road operated at close of month	234,243	235,161	57,820	58,120	44,605	44,767	131,818	132,274
Revenues:								
Freight	$293,761,995	$307,104,480	$114,769,998	$122,921,859	$59,139,877	$58,718,743	$119,852,120	$125,463,878
Passenger	31,459,456	35,510,131	17,736,202	19,609,778	3,677,193	4,428,782	10,046,061	11,471,571
Mail	8,202,472	8,281,469	3,131,536	3,173,652	1,431,743	1,423,619	3,639,193	3,684,198
Express	5,323,208	5,335,682	2,240,638	2,378,614	984,046	931,232	2,098,524	2,025,836
All other operating revenues	14,693,852	16,694,051	7,084,925	8,193,309	1,874,544	2,017,285	5,734,383	6,483,457
Railway operating revenues	353,440,983	372,925,813	144,963,299	156,277,212	67,107,403	67,519,661	141,370,281	149,128,940
Expenses:								
Maintenance of way and structures	40,356,729	42,843,518	14,535,516	16,787,241	6,686,898	7,176,242	19,134,315	18,880,035
Maintenance of equipment	59,749,612	69,575,830	25,570,518	31,155,760	11,523,761	12,867,012	22,655,333	25,553,058
Traffic	8,548,634	8,843,420	3,129,426	3,335,316	1,624,539	1,616,899	3,794,669	3,891,205
Transportation—Rail line	120,301,283	134,651,323	52,690,370	59,514,169	19,836,751	21,481,559	47,774,162	53,655,595
Transportation—Water line	383,926	466,823	.....	.....	.....	.....	383,926	466,823
Miscellaneous operations	2,980,158	3,523,682	1,327,608	1,582,532	306,236	355,392	1,346,314	1,585,758
General	10,389,239	11,125,835	4,108,993	4,379,234	2,010,374	2,122,559	4,269,872	4,624,042
Transportation for investment—Cr.	300,500	673,077	45,521	224,786	34,411	44,212	220,568	404,079
Railway operating expenses	242,409,081	270,357,354	101,316,910	116,529,466	41,954,148	45,575,451	99,138,023	108,252,437
Net revenue from railway operations	111,031,902	102,568,459	43,646,389	39,747,746	25,153,255	21,944,210	42,232,258	40,876,503
Railway tax accruals	30,944,357	29,354,702	13,076,250	12,231,372	6,642,052	5,911,730	11,226,055	11,211,600
Railway operating income	80,087,545	73,213,757	30,570,139	27,516,374	18,511,203	16,032,480	31,006,203	29,664,903
Equipment rents—Dr. balance	8,528,818	9,232,015	3,650,741	3,382,809	124,563	73,727	4,753,514	5,775,479
Joint facility rent—Cr. balance	2,992,973	3,121,303	1,614,184	1,727,932	319,188	372,392	1,059,601	1,020,979
Net railway operating income	68,565,754	60,860,439	25,305,214	22,405,633	18,067,452	15,586,361	25,193,088	22,868,445
Ratio of expenses to revenues (per cent)	68.6	72.5	69.9	74.6	62.5	67.5	70.1	72.6
Depreciation included in operating expenses	16,995,283	16,737,621	7,496,415	7,469,097	3,299,161	3,150,600	6,199,707	6,117,924
Pay roll taxes	8,747,378	7,103,737	3,694,540	2,909,161	1,518,084	1,171,545	3,534,754	3,023,031
All other taxes	22,196,979	22,250,965	9,381,710	9,322,211	5,123,968	4,740,185	7,691,301	6,188,569

FOR TEN MONTHS ENDED OCTOBER, 1938 AND 1937

Miles of road operated at close of month *	234,589	235,567	57,943	58,273	44,687	44,785	131,959	132,509
Revenues:								
Freight	$2,342,622,378	$2,887,911,167	$910,935,445	$1,217,238,634	$475,560,633	$554,190,041	$956,126,300	$1,116,482,492
Passenger	337,758,798	369,558,376	184,989,259	202,911,584	44,592,692	50,922,674	108,176,847	115,724,118
Mail	77,288,618	79,447,616	29,539,159	30,390,183	13,445,235	13,881,039	34,304,224	35,176,394
Express	39,272,277	48,920,250	14,259,164	20,287,394	8,066,778	10,004,851	16,946,335	18,628,005
All other operating revenues	130,530,719	161,729,994	63,331,514	80,875,549	16,849,422	20,080,105	50,349,783	60,774,340
Railway operating revenues	2,927,472,790	3,547,567,403	1,203,054,541	1,551,703,344	558,514,760	649,078,710	1,165,903,489	1,346,785,349
Expenses:								
Maintenance of way and structures	354,190,472	425,654,505	127,906,434	167,289,848	64,148,667	72,785,532	162,135,371	185,579,125
Maintenance of equipment	556,710,409	700,608,725	229,768,906	317,173,273	108,328,881	126,254,833	218,612,622	257,180,619
Traffic	85,340,352	87,587,176	31,056,112	32,381,867	16,156,677	16,393,530	38,127,563	38,811,779
Transportation—Rail line	1,122,971,694	1,255,258,927	491,674,660	565,798,941	189,332,103	204,216,485	441,964,931	485,243,501
Transportation—Water line	3,894,554	4,709,397	.....	.....	.....	.....	3,894,554	4,709,397
Miscellaneous operations	31,439,475	34,473,520	13,775,736	15,257,590	3,721,677	4,158,905	13,942,062	15,057,025
General	106,400,120	122,740,161	42,166,247	51,314,343	20,279,458	22,314,195	43,954,415	49,111,623
Transportation for investment—Cr.	2,679,257	4,617,525	494,153	812,610	446,699	627,722	1,738,405	3,177,193
Railway operating expenses	2,258,267,819	2,626,414,886	935,853,942	1,148,403,252	401,520,764	445,495,758	920,893,113	1,032,515,876
Net revenue from railway operations	669,204,971	921,152,517	267,200,599	403,300,092	156,993,996	203,582,952	245,010,376	314,269,473
Railway tax accruals	286,501,543	278,579,050	121,665,361	123,555,518	56,887,638	60,017,378	107,948,544	95,006,154
Railway operating income	382,703,428	642,573,467	145,535,238	279,744,574	100,106,358	143,565,574	137,061,832	219,263,319
Equipment rents—Dr. balance	79,494,757	80,337,343	33,187,196	33,416,346	4,718,244	3,228,083	41,589,317	43,692,914
Joint facility rent—Cr. balance	29,499,652	30,546,182	15,867,926	16,993,849	3,272,393	3,240,336	10,359,333	10,311,997
Net railway operating income	273,709,019	531,689,942	96,480,116	229,334,379	92,115,721	137,097,155	85,113,182	165,258,408
Ratio of expenses to revenues (per cent)	77.1	74.0	77.8	74.0	71.9	68.6	79.0	76.7
Depreciation included in operating expenses	168,534,333	163,622,863	73,639,425	72,584,043	32,879,754	31,301,082	62,015,154	59,737,738
Pay roll taxes	82,441,017	53,674,121	34,521,573	30,092,007	14,630,955	8,952,594	33,288,489	14,629,520
All other taxes	204,060,526	224,904,929	87,143,788	93,463,511	42,256,683	51,064,784	74,660,055	80,376,634

* Represents an average of the mileage reported at the close of each month within the period.

Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to revision.